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ROAD MAP

With just one owner from new, this 1978 Harley-Davidson XLCR is all original, right down to the tires. 22

NICK CEDAR

JEFF BARGER (2)

Introduced just before Honda's CB750 hit the market, the BSA Rocket 3 was one of the fastest production motorcycles you could buy.

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NICK CEDAR (3)

Celebrating the Seventies

Motorcycle enthusiasts, particularly those of us who love old bikes, recognize the Seventies as a watershed decade in motorcycling, a decade driven by a thirst for innovation that produced a singularly rich landscape of motorcycles. The impact of the era resonates strongly today, driving growing interest in the bikes of the Seventies and an explosion of vintage customs built by enthusiasts young and old around the world. This special newsstand-only issue of *Motorcycle Classics*, "Street Bikes of the Seventies," celebrates the machines that still inspire us today.

The pull of the Seventies is easy to understand. A culturally and socially unique era, it was accompanied by seemingly sudden and astonishing advancements in motorcycle technology as the recreational motorcycle market exploded. Outside of a few low-volume overhead cam British singles and multi-cylinder Italian specials — most of them race bikes and unavailable to the average rider — the typical production motorcycle had stayed pretty much the same for decades. The basic platform was a vertical 2- or 4-stroke single or twin, plus the occasional pushrod V-twin and horizontally opposed twin à la Harley-Davidson and BMW.

When the overhead cam, 4-cylinder Honda CB750 was introduced for 1969 the winds of change were already blowing hard. A milestone motorcycle, the CB750 represented the beginning of the end for the old order and the old way of doing things. The sporting British twin, for more than a generation the image of performance and style, found itself pushed to the back of the stage as sophisticated Japanese multis and more than a few groundbreaking Italian thoroughbreds reshaped the new motorcycle market.

That new market spawned a legion of now legendary street bikes, bikes that came in almost every imaginable form. Yamaha continued pushing the limits with better and better 2-stroke twins like the RD350 while also developing new multi-cylinder 4-strokes like the XS1100. Honda set yet another new benchmark with its water-cooled 4-cylinder GL1000, while Ducati explored new performance territory with its overhead cam desmodromic twin. Kawasaki gave us the howling 500cc 2-stroke H1 triple and BMW the Superbike-winning R90S. Even the British served up some surprises, like the wild Craig Vetter-designed Triumph Hurricane, a bike generally acknowledged as the world's first factory special. Recognized classics today, these are the bikes that fired the imagination of a generation of riders and continue to move and excite motorcyclists 40-plus years later.

I have a particular love for bikes from the 1970s, having bought my first motorcycle, a 1971 Kawasaki 100 enduro, in 1976. I was 17 and freshly graduated from high school, with college in front of me and my folks several states away. I was getting my first big taste of freedom, and that Kawasaki was my ticket to adventure. I rode it every day, everywhere, slogging it over trails it had no business on and piling on the miles, rain or shine. That little Kawasaki turned out to be a launching point into a lifetime filled with motorcycles, and while I've cycled through more than a few since then, the bikes of the Seventies maintain a special hold on me.

Whether you rode the bikes we explore in these pages back in the day or you're just discovering them for the first time, we hope you enjoy this special issue of *Motorcycle Classics* celebrating a unique era in motorcycling's rich history.

Richard Backus
Editor-in-chief

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DUCATI
DESMO

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1977 Ducati 900SS

Story by Greg Williams
Photos by Jeff Barger

This is not your average Ducati tale. Almost unbelievable, it's a story with horror movie elements along with a whiff of romantic comedy.

Matt Linex isn't sure which genre this tale best suits. The one thing the college student from Denton, Texas, does know is this — it's the tale of a rare 1977 Ducati 900 Super Sport that positively changed his life.

Setting the stage

In 2012, about a week before Halloween, Matt's cousin invited him and a friend to a pasture party in South Arlington, Texas. After getting off the highway and navigating some back roads, the pair eventually traversed a bumpy and rutted trail. It was dark, muddy and overgrown. Branches were brushing the sides of his Jeep, and a rusted "No Trespassing" sign hanging from a tree was flapping in the wind. Matt wasn't comfortable. It didn't get any better when he saw the party was happening in a derelict-looking trailer house.

"I said, 'I ain't having any of this,' and started to turn around to get out," Matt explains, adding, "That's when the headlights of the Jeep caught a flash of chrome hidden in the weeds."

Overcoming his nervousness about what he thought was a sketchy situation, Matt got out of his Jeep and walked to where he'd seen the chrome — just inside a half fallen down wooden barn. He pulled aside the weeds to find an old Honda CB350, and behind that was a Norton and a bunch of Chevy Corvairs. Nearby, but fully exposed to the elements, Matt found a 1977 Ducati 900SS.

"At that point I'm ready to join the party, and we went and found the owner of the land, who turned out to be a kid about 22 years old," Matt says. "We learned his dad, who was a motorcycle racer at one time, had died and left everything to him. I asked if the motorcycles were for sale, and he said,

1977 DUCATI 900SS

Engine: 863.9cc air-cooled OHC desmodromic 90-degree V-twin, 86mm x 74.4mm bore and stroke, 9.5:1 compression ratio, 80hp @ 7,500rpm
Top speed: 143mph
Carburetion: Two 40mm Dell'Orto PHM
Transmission: 5-speed, chain final drive
Electrics: 12v, electronic ignition
Frame/wheelbase: Dual-downtube w/engine as stressed member/59in (1,499mm)
Suspension: 38mm Marzocchi telescopic forks front, dual Marzocchi shocks w/adjustable preload rear
Brakes: Dual 11in (280mm) disc front, single 9in (229mm) disc rear
Tires: 3.5 x 18in front and rear
Weight (dry): 414lb (188kg)
Seat height: 30in (760mm)
Fuel capacity/MPG: 4.75gal (18ltr)/25-40mpg
Price then/now: $3,600 (approx.)/$30,000-$50,000

'Everything's for sale.'" Armed with flashlights, they all went to look at the motorcycles.

"I knew the Ducati was special, but didn't know exactly what it was — I had never seen one before," Matt says. "I pretended to be mostly interested in the Honda and Norton, but asked what he wanted for all three machines. He said he'd sell them all for $1,500. I only had $1,000, but I also had the first rifle I'd ever bought to offer as a trade, and he agreed to that."

After the cash and gun were exchanged for titles, Matt removed the Ducati first. The bike had been sitting, unused and uncovered, since the late 1970s. There were just over 2,000 miles on the odometer, so it was most likely parked due to a mechanical issue. The brakes were seized and the chain was rusted solid. It took him six hours of sweaty labor to get the 900SS onto his trailer. Matt took another trip to pick up the Honda, which he sold, and the Norton, which went to his uncle. With the bikes off the land and passed along, Matt settled in to research the Ducati.

"I couldn't find a lot of information, so I phoned Ducati of Dallas," Matt says. "I told them I had a 900SS and they laughed and hung up the phone — seriously. I called back and asked to speak to a manager, and when I told him the story again he said, 'If you really have this bike, bring it to the shop and we'll take a look.' I only wanted confirmation that what I had was something special."

Matt says when he pulled up to the shop the entire staff came outside for a look. Nobody was laughing.

Super special

Ducati Super Sports are some of the most sought-after motorcycles the Italian manufacturer has produced. In 1972, Paul Smart and Bruno Spaggiari made a 1-2 sweep at the first Imola 200 race aboard 750cc desmodromic V-twins designed by Ducati's famous Fabio Taglioni and based on the production 750GT introduced in 1971. Shortly after, Ducati set out to build a race-replica version that would be known as the Super Sport.

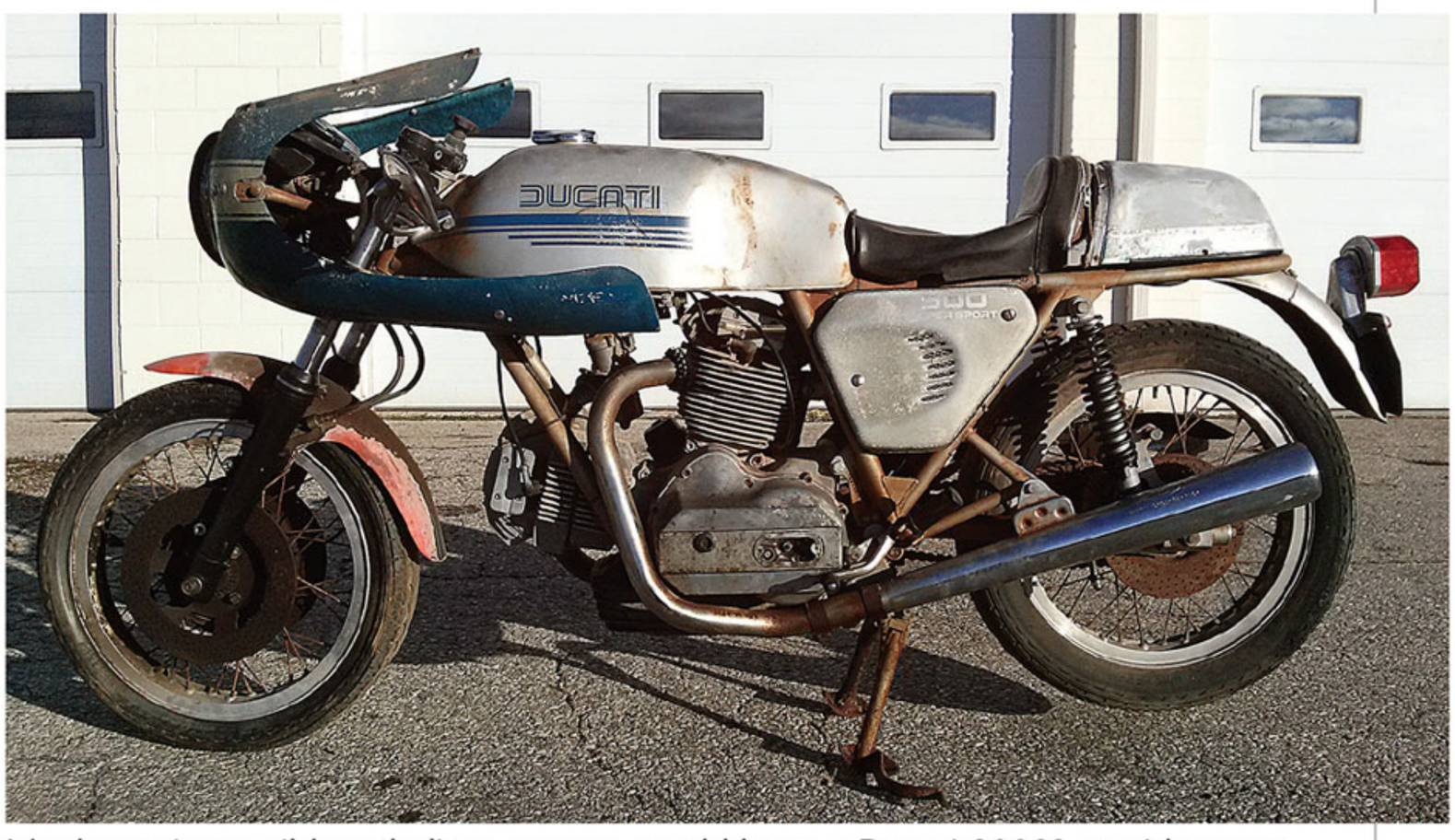
The street-legal desmo twin took some time to materialize. "Although a handful of Super Sports were produced out of 750 Sports during 1973, the 750 Super Sport wasn't generally available until 1974," writes motorcycle

historian and Ducati expert Ian Falloon in his book the *Standard Catalog of Ducati Motorcycles*. "At the time it was one of the most exotic production motorcycles available, a true race replica boasting triple disc brakes, racing fairing, and a race-shop prepared engine."

It was also in 1974 that Ducati launched its little-loved 860GT series, machines that emphasized new, angular styling and a revised engine that was less costly to build. The 860GTs did not receive critical acclaim, so Ducati built another limited run of Super Sports for 1975 in both 750cc and 900cc variations. The engine for both models was based on the "square-case" engine (so named for its squared-off engine cases versus the earlier rounded ones) found in the new 860GT, and was fitted into what was basically the 750SS chassis of 1974 with fiberglass tank, fairing and tail section. These machines were "race replicas," with no electric start or provision for signal lights. They were also right-foot shift, a drawback as recently adopted U.S. legislation required all new production motorcycles to have left-foot gearshift mechanisms.

Berliner Motor Corp., Ducati's American importer, requested that the 750SS and 900SS enter regular production for 1976. This necessitated "upgrades" including a toned-down intake and exhaust, with smaller carbs fitted with air filters and Lafranconi mufflers instead of Contis. Also, the gearshift lever migrated to the left side of the bike and operated through a crossover linkage, and a 4.75-gallon steel tank from a 750 Sport replaced the fiberglass Imola tank. Signal lights helped complete the specifications.

Although something of a compromise from its earlier versions, Falloon



It's almost impossible to believe anyone would leave a Ducati 900SS outside to rot.

Ducati specialist Ian Falloon had a hand in the 900SS' restoration, confirming its authenticity and encouraging the restoration team not to "over-restore" it.

says, "The 1976 and 1977 Super Sport re-established Ducati as a premier manufacturer of sporting motorcycles, and maintained its reputation for outstanding handling and braking." Ducati produced the 750SS until 1979 and the 900SS until 1982. Only 137 examples of the 1977 900SS came to the U.S., making it a very rare motorcycle, indeed.

Back in Texas

Matt picks up the story again. "Ducati of Dallas originally sold the 900SS I'd found in 1977, and apparently they'd gone searching for the bike in the late 1980s or early 1990s to try and buy it back," Matt says. "When I showed up with it, they were making me cash offers, but I said, 'No, thank you.' I wanted to wait."

Matt put the Ducati in his parents' garage, but after a few months his mom grew less tolerant of the rusty old motorcycle taking up space. That's when he decided that if he could sell the Ducati for a good profit, he'd let it go. So, to test the waters, he put it on Craigslist for $18,000.

This is where Italian motorcycle enthusiast and restaurateur Eric Kurtev of Fond du Lac, Wisconsin, enters the story. Always on the hunt for rare and interesting models, Eric checks Craigslist and other sites at least twice a day, and that's how he came across Matt's listing. The two connected via telephone, and Matt described the Ducati as best he could, and sent photos to Eric. As it turns out, Eric is a friend of Ian Falloon, and Falloon weighed in on the derelict 900SS.

"I forwarded the photos to Ian," Eric says, and adds, "He said all the correct pieces were on the bike, including the wheels and shocks, and the engine number matched the frame. The most important part was the engine bottom end had never been apart, because from the factory Ducati installed a wire between two engine bolts and secured it with a lead seal — that wire and seal were still there."

Although the top end of the engine was fully rebuilt, the 900SS' crankcase has never been apart.

Eric agreed to pay $15,000, and without any deposit or other assurance Matt rented a U-Haul trailer, loaded the Ducati and began the 1,100-mile drive to Wisconsin to deliver the machine and pick up his cash. "I was terrified someone would steal the bike, so I stopped only once and slept for an hour," Matt says. Once in Wisconsin, Matt dropped the Ducati off with Brady Ingelse at Retrospeed (retrospeed.net), whom Eric had already contacted about restoring the bike, then linked up with Eric to complete the deal. "This was one of the craziest things I've ever done," Matt says, "but for all the worry, it did turn out okay."

This is where the romantic side of the story happens. Matt was rushing the 16-hour drive back to Texas to see his girlfriend, Andrea, and take her to a Pearl Jam concert. "I loved her, and drove straight back home to see her and take her to see Pearl Jam. Selling that Ducati also allowed me to be able to afford traveling around with her. We went to Vegas, the Hoover Dam and the Grand Canyon. I was incredibly happy during that time. It was all thanks to that Ducati. It gave me financial freedom, a chance to repay debts and travel."

Back to the Ducati, which now sat at Retrospeed in Belgium, Wisconsin, waiting to be restored. Falloon's advice to Eric was to leave the patina and mechanically restore the 900SS. But when Brady met with Eric to discuss options, he said they felt the Ducati was too rough and required a complete restoration. Brady

started by breaking apart the 900SS, and he says the amount of corrosion on both aluminum and steel components was "intense." To rescue the alloy, Brady worked through multiple stages of media blasting to bring up a uniform surface, then Evan Steger at Evan's Detailing and Polishing (goshineon.com) brought everything up to a fine luster.

Scott Moore of Fast-Finish Painting in Alabama sourced the correct colors for the 900SS and sprayed the frame the unique shade of Ducati silver. That's when Eric flew Ian Falloon in to give some critical advice in the restoration process. "He said keep it 100-percent stock, that there's no place for aftermarket parts on such a bike, and that whatever we did, do not over-restore the Ducati," Brady recalls.

An example of over-restoration would have been to fit stainless steel spokes and nipples to the wheels. But that's not how Ducati built them, so all of the new spokes Brady ordered had to be individually painted the same silver color as the frame. Scott applied every bit of paint on the 900SS, from the frame to the gas tank, fairing, side panels and spokes. The nickel-plated nipples were stripped back to steel and then clear zinc-plated before being laced into the restored hubs and rims. Fresh bearings went into the neck and hubs, and small parts including some fasteners were scavenged from a donor Ducati 900GTS.

> "If it had been any other bike than a 900SS … I'd tell them to find a better candidate for restoration."

"It's amazing how many part numbers are the same between the two bikes, and a wrecked GTS can be had for about $3,000," Brady says.

Luckily, although the top end of the 900SS' engine was seized, the bottom end had been full of oil and the crankshaft and lower connecting rod tolerances were fine. This was important, because for the purpose of authenticity, Brady didn't want to disturb the original Ducati wire and lead seal. The cylinders were sent out to be bored to the next serviceable oversize, and new pistons and rings were installed. The heads were treated to freshly cut three-angle seats and new valves, work done in-house at Retrospeed.

Brady sourced new rubber components, a seat cover and windshield for the fairing, and over a period of two years the 900SS came back together.

"It was a really rough core for a rebuild, and if it had been any other bike than a 900SS that a customer brought to us, I'd tell them to find a better candidate for restoration," Brady says.

Eric now has a no-expense spared Ducati 900SS in his collection, and for his part, Matt dreams of some day buying the bike back.

"That rusted, dilapidated, neglected motorcycle gave me freedom, romance and a great story to tell," Matt says. "It will forever be a part of my life, and buying it back is about No. 9 on my bucket list." MC

THE FIRST FACTORY SPECIAL

Triumph's Revolutionary 1973 X75 Hurricane

Story by Margie Siegal
Photos by Gary Phelps

The X75 Hurricane has been hailed as the first factory custom and the first cruiser. Its story is unique, and while it's been told many times, its tellers have often gotten the facts wrong.

In the beginning ...

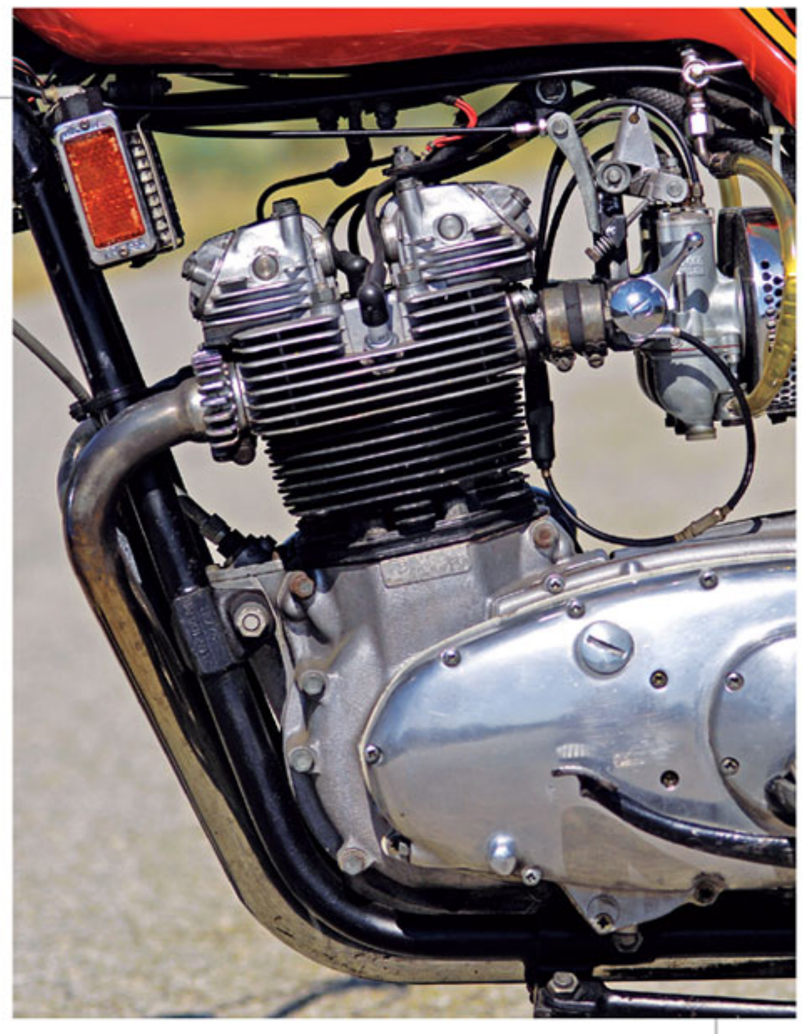
The Hurricane's roots are in the BSA/Triumph triple, first designed by Bert Hopwood and Doug Hele in 1961 and 1962. Unfortunately, neither dared show the drawings to Triumph boss Edward Turner (who saw no need to update the product line) until 1964, when rumors of a Honda 750 began to surface. If they'd acted with haste, the triple could have been in showrooms in 1965. Instead, BSA Group management, figuring it had all the time in the world, handed the styling of the new design to the Ogle Group, then famous for award-winning toaster design. Ogle played with the triple's styling for over a year, while Honda perfected its 736cc 4-cylinder engine.

When American dealers and distributors were finally shown the new triple in late 1968, there was widespread disappointment. Ogle had produced two versions, a BSA called the Rocket 3, with cylinders sloping forward and boxy, dark red bodywork, and a Triumph called the Trident, with upright cylinders and boxy, greenish-blue bodywork. Dealers and customers alike agreed the new bikes were ugly. They were also expensive, and sales were slow. Several months later, Honda introduced the CB750.

"When they put their marbles in the triples basket they made a huge mistake," says Don Brown, then vice president and director of BSA's U.S.

1973 TRIUMPH X75 HURRICANE

Engine: 741cc air-cooled OHV inline triple, 67mm x 70mm bore and stroke, 9.5:1 compression ratio, 58hp @ 7,250rpm (claimed)
Top speed: 114mph (period test)
Carburetion: Three 27mm Amal Concentric 626
Transmission: 5-speed, chain final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle/57in (1,448mm)
Suspension: Telescopic forks front, dual shocks w/ adjustable preload rear
Brakes: 8in (203mm) TLS drum front, 7in (178mm) SLS drum rear
Tires: 3.25 x 19in front, 4.25 x 18in rear
Weight (dry): 458lb (208kg)
Seat height: 32in (813mm)
Fuel capacity/MPG: 2.6gal (9.8ltr)/40-45mpg
Price then/now: $2,295/$12,000-$29,000



Originally conceived as a BSA, the Triumph Hurricane used the forward-sloped BSA version of the BSA/ Triumph triple instead of the upright Triumph iteration.

operations, because "they could not afford to design the bike to employ the modern pressure die casting and modern transmission designs that would be great in the market place but proved to be way too expensive to build properly. By comparison, the Honda CB750 retailed for about $1,275 while the Rocket 3 sold for about $1,785. The CB750 had a 5-speed gearbox, the Rocket 3 had [originally] four gears. The CB750 had an electric starter and the Rocket had a kickstarter."

Time for a change

Brown decided something had to be done to boost sales of BSA's new triple, so he rented Daytona Speedway and hired racers Yvon DuHamel, Dick Mann and Ray Hempstead. With four Rocket 3s at their disposal, the trio set numerous speed and distance records, certified by the AMA and the AMA Competition Congress. Later that year, the Triumph version of the triple set records at the Bonneville Salt Flats. But none of this was enough: The Honda 750 cut significantly into Triumph and BSA sales.

In early 1969, Brown, sipping a glass of wine while flying home from England, thought of his first bike, a customized Triumph Thunderbird, and decided he would take a stab at redesigning the triple on his own. Knowing the new regime loved the Ogle design, even if no one else did, and would refuse to consider a redesign, Brown decided to finance one in secret. He asked Harry Chaplin, BSA's U.S. sales manager, if he happened to know

Although a classic now, the X75 was radical stuff in the early Seventies, which may explain why it wasn't a run-away best seller.

The Hurricane is a slender machine, and unmistakably British, a point Triumph emphasized on the frame of every bike it made.

anyone who was into custom bike building. Chaplin handed Brown a card with the name Craig Vetter on it, telling Brown he had seen Vetter at the last Daytona races showing several custom Bonnevilles.

On April 21, 1969, Brown called Vetter and made him an offer: He would fly Vetter to his office in New Jersey for a meeting. If Brown liked him, he would give Vetter the keys to a BSA Rocket 3 and he could ride it back to the Vetter factory in Illinois. The meeting, on June 3, 1969, went well, and Vetter rode home on the Rocket 3. One of the things that had impressed Brown about Vetter was the fact that he was not only a dreamer, but also a practical industrial designer. "I wanted my design to be producible, so I made no changes that I thought might jeopardize its production," Vetter says.

"The function of my design was to say, 'Look at me because I am special.' The function of the redesign of the Rocket 3 was to make me noticed for the right reasons," Vetter explains. "Don made things easier for me when he asked for a slim, 1-1/2-person design. Somehow, motorcycles look better that way. The function of the Hurricane was to make *me* stand out in a world of foreign motorcycles. The function of my design was to look American. Its function was also to make its rider be noticed by women."

Vetter's final prototype featured an innovative seat and tank unit set off with gold Scotchlite reflective tape, a simple chrome headlight, Borrani aluminum rims, polished stainless steel fenders and a 3-into-3 megaphone exhaust, supplied to him by Brown. Brown had also sent Vetter a set of Ceriani road racing forks, requesting they be used on the prototype. Vetter measured them and determined they had to be lengthened an inch and a half to maintain the stock rake and trail. He did not intend to extend the forks beyond the stock measurement. Vetter also suggested the cylinder head fins be extended to make the engine appear more powerful, a suggestion that was carried out on the production bikes.

Eventually, Peter Thornton, president of BSA/Triumph North America, got wind of the prototype and demanded to see it. "My God, it's a bloody phallus," he exclaimed. "Wrap it up and send it to England." According to Brown, the only reason the bike was eventually produced in a limited edition was that Triumph needed sales, and that the company thought the publicity from the eye-catching custom would translate to new model sales that would lead, in turn, to service and parts sales.

When Brown first discussed the bike with Vetter, Brown called it "a sports version of a Rocket 3." *Cycle World* referred to it as the "Vetter BSA" in its 1970 article, and in January 1971 the prototype was displayed in Houston, tagged as the "Vetter BSA Rocket 3," which was probably suggested by Tony Salsbury at BSA. By the time *Cycle Guide* was offered a test of the production bike in 1972, BSA had fallen apart, so midway through the *Cycle Guide* test, the bike (which had started as a BSA) was officially named the Triumph X75 Hurricane.

The Hurricane becomes a collectible

Although the Hurricane was not a good seller at the time, it had a marked effect on contemporary design. Motorcycle designers began blending in the lines of the tank and seat, while a new type of motorcycle, the cruiser, started to become popular. To be sure, the Hurricane has been called the first cruiser, and it was undeniably the first factory custom.

Meanwhile, the 1,172 Hurricanes produced mostly ended up with collectors. A lot of them have survived, but the fiberglass on many has aged. Our feature bike, however, looks almost new. Classic bike broker and auction man Glenn Bator found it in New Mexico, with no traceable history. "It's one of the survivors," he says. The bike was in good shape, and needed no restoration; the only thing Bator had to do was a minor spruce up and tune to get it into great running order, and Bator says it's an easy runner: "It's easy to start, and the engine is quiet." That last part is surprising, as many customs tend to be noisy, but all testers, from contemporary to retrospective, mention the Hurricane's quiet exhaust note.

Some contemporary testers complained that the extended forks degraded the handling from the stock Rocket 3, but they don't bother Bator one bit. "I have to be careful, since the bike has older, hard tires," he says. "If it had a better set of tires, it would have better handling. But even with the old rubber, the bike handles well, you can really throw it into corners.

"My God, it's a bloody phallus," BSA's Thornton exclaimed. "Wrap it up and send it to England."

Glenn Bator shows off the Hurricane's performance. "The bike handles well, you can really throw it into corners," Bator says.

"The gearing is tall," Bator continues. "I often have to drop down a gear to keep it in the right rpm range. I've ridden other triples," Bator says, "and with the Hurricane, I could tuck in a little more, and throw my body into it a little more. I'm 6 feet tall, and I didn't feel I was a monkey riding a football, and everything is easy to reach. The seat feels good, the bars are good, and the 3-into-3 exhaust sounds like a subdued MV Agusta going down the straight at Willow Springs.

"I think Hurricanes are undervalued." Bator opines. "Vetter took a bike that was bone ugly and made it beautiful. The Brits came to an American designer because they were grasping at straws. It's amazing what fiberglass does for that bike."

Why Royse Ader bought this bike

Bator buys and sells, and Britbike enthusiast Royse Ader, a Vetter fan for years, just bought this Hurricane after buying two other motorcycles in about 30 days. "I first saw a Hurricane when I was a kid. I've been dreaming of owning one for a long time," he tells us.

Ader first bought a classic Norton from Bator, but then he saw associate editor Landon Hall's *Found on eBay* blog in which Hall noted a Vetter Mystery Ship, Vetter's race-spec, customized KZ1000 Kawasaki, then on the market. Ader decided he just had to have the Mystery Ship, and once that deal was final he decided to jump in all the way and buy the Hurricane so he'd have a Vetter matched set. So what's he think of the Hurricane? "The Hurricane outclasses the other triples by far," Ader says with conviction. "Just sitting there, it's sexier, sleeker, classier. It's the 'It' bike, the American example of what Triumph meant in the 1970s." MC

Dispelling Hurricane Myths

Myth One: BSA commissioned the Hurricane

This story was repeated in several period magazines, including *Cycle World*, September 1970, *Cycle Guide*, September 1972, and *Cycle*, March 1973. Fact: BSA corporate knew nothing about the project at first. It was conceived by Don Brown, vice president and director of the BSA Group's eastern facility, BSA Inc., in Nutley, N.J. It was financed out of office petty cash and kept secret from BSA Group management in England until it was completed.

Myth Two: Craig Vetter was a bright young thing fresh out of design school

Fact: Vetter had graduated four years previous to his commission to design the Hurricane, had started a fairing factory and was already selling his fairings nationwide. He had an ad in every issue of *Cycle World* from 1967 through 1970. At the time he met with Brown, Vetter already had 10 employees.

Myth Three: The Hurricane was intended to be a chopper

Fact: Craig Vetter is emphatic he neither intended to make nor actually made changes to the geometry of the Rocket 3. However, when he was reunited with his prototype in England this past summer, he examined the forks and found that a slug had been added to extend the forks an extra inch and a half.

Vetter then took a magnifying glass to the September 1970 *Cycle World* "white cover" — and there was that extra slug. The prototype had been in England from Oct. 31, 1969, the date Peter Thornton, then CEO of U.S. BSA/Triumph operations, first saw it, to June 1970, when it was shipped directly to *Cycle World*.

Tony Salsbury, then working for BSA, told Vetter the bike had been in the basement of Umberslade Hall, the BSA and Triumph R&D center, for most of those eight months. BSA had spent much of this time preparing the tooling necessary to put the bike into production. Who extended the forks, and why, has been a mystery, but Don Brown (who resigned from BSA in January of 1970), believes that BSA Group employee Pete Coleman decided to lengthen the forks to accentuate what many people thought of as the "chopper-like" quality of the design.

BEST BANG FOR THE BUCK

1975 Yamaha RD350

Story by Margie Siegal
Photos by Nick Cedar

School is out and the cool kids, the ones with the feathered rocker hair, Led Zeppelin T-shirts and worn jeans, are headed for the parking lot. Two swift kicks and a RD350 chatters into life.

That ring-ding-ding sound is unmistakable as the helmetless owner threads his way through the after-school traffic, narrowly missing a mother driving her daughter home. Mother is appalled. Daughter smiles. She is thinking about sneaking out of the house to meet that insolent creature on his bad boy bike.

The RD350 was THE Seventies poor boy racer. It was relatively cheap, relatively easy to work on and fast through the twisties. Unlike the many stoplight-to-stoplight dragsters of the early Seventies that had to be muscled through corners, the RD was light and flickable, just the thing an aspiring racer needed to hone cornering skills. "It was brutal, fast and wheelie prone," says Zeki Abed, the proud owner of this original-condition RD.

Unfortunately, teenage racers are not the best at caring for their toys. Although a best-seller in the mid-Seventies, finding an RD350 in good shape today isn't easy. The RDs that weren't thrown away in Turn 7 or slid out on a patch of gravel on a mountain road were still usually ridden hard and often put away wet, the maintenance schedule forgotten.

Our feature RD is one of the few lucky ones. Mostly original and in excellent running shape, it was bought new by an engineer, who kept it until just a year ago when he sold it to classic Japanese motorcycle collector Zeki, who treasures it because it makes him feel like a kid again — a bad kid. "It's the bike I never had," Zeki says. "It's the bike that would blow away everything up to a 750."


YAMAHA
350
TORQUE INDUCTION
YAMAHA
YAMAHA

The RD350's 2-stroke engine produced a claimed 39 horsepower.

1975 YAMAHA RD350B

Engine: 347cc air-cooled 2-stroke parallel twin, 64mm x 54mm bore and stroke, 6.6:1 compression ratio, 39hp @ 7,500rpm (claimed)
Top speed: 95mph (period test)
Carburetion: Two 28mm Mikuni VMSC
Transmission: 6-speed, chain final drive
Electrics: 12v battery, coil and breaker points ignition
Frame/wheelbase: Dual-downtube steel cradle/52in (1,321mm)
Suspension: Telescopic forks front, dual shocks w/ adjustable preload rear
Brakes: Single 10.7in (272mm) disc front, 7.1in (180mm) SLS drum rear
Tires: 3 x 18in front, 3.5 x 18in rear
Weight (wet): 352lb (160kg)
Seat height: 31.8in (808mm)
Fuel capacity/MPG: 3.2 gal (12ltr)/35-40mpg
Price then/now: $1,224 (1975)/$1,500-$4,000

Zeki's RD350 has covered just more than 6,000 miles from new.

Getting there

Although Yamaha is now the second largest motorcycle manufacturer in the world, in the early 1960s it was just one of a group of Japanese manufacturers struggling to catch Honda, the industry leader. In 1962 Yamaha introduced the YD3, a 250cc sporting 2-stroke twin with electric start. A successful export, it encouraged Yamaha to concentrate on 2-strokes, with an eye toward aspiring club racers.

Although 2-strokes had a power advantage over their 4-stroke brethren, they did have a major drawback, and that was the need to mix oil with the gas, an inconvenient and sometimes messy chore. In 1964, Yamaha introduced the Autolube system, which pumped oil from a tank to mix with the gas going into the crankcase. It was an innovation others would follow.

In 1967, Yamaha followed the YD3 with the YDS5, a completely redesigned and updated 250, and the YR1, a 350cc 2-stroke twin. Both of these bikes were geared towards sporty performance, and a production racing version of the YDS5, the TD1C, proved a winner on the track and was joined two years later by the 350cc TR2. Word got around that these Yamaha racers could be uncrated and pushed directly onto the starting line, no expensive setup required. Better yet, the Yamaha racers often beat much bigger machines. Aspiring café racers and track racers alike felt that Yamaha was responsive to their needs, and as a result they went out and bought Yamaha road bikes. When Yamaha came out with the light and reliable DT1 250cc trail bike in 1968, offroad enthusiasts were added to the crowd of Yamaha boosters. By the late 1960s, Yamaha was selling enough bikes to challenge Honda for leadership of the Japanese motorcycle industry.

The next step

Armed with feedback from the production racing crowd, Yamaha engineers updated the YR1, improving the styling for good measure. The result was the 35 horsepower R5, which appeared in 1970 and was even more successful than the YR1. But the best was yet to come. The RD350, which started hitting showrooms in early 1973, was the next step up.

This 347cc twin took a lot of its basic design from the Yamaha production racers, including the double cradle frame and the 2-stroke

The small window lets you know if there's still oil in the tank.

The RD's single-disc front brake was one of the best of its day.

engine. As *Cycle* magazine said, "It has a racing connection deeper than advertising copy." It showcased two major upgrades over prior Yamahas: A reed valve induction system and a front disc brake.

Unlike 4-stroke valves, reed valves are inserts in the intake tract of 2-stroke engines that allow gas and air to flow one way only. A 2-stoke engine compresses the fuel/air mix in the crankcase. With a simple piston-port engine, mix can leak back ("blow back") into the carburetors. With the addition of reed valves, fuel mix can't back out, improving cylinder filling.

The RD also featured an additional port in the induction system. When each of the RD's pistons neared the bottom of their stroke, they uncovered a small port fed directly from the carburetor manifold. At the same time that the preheated compressed mix entered the combustion chamber from the crankcase, an extra, small shot of fuel and air was inducted. Yamaha literature claimed that this improved combustion chamber filling and scavenging, and cooled the piston crown.

As a result of Yamaha's "Torque Induction" system — along with a crankshaft supported by large ball bearings, with roller bearings at the bottom and needle bearings at the top of the connecting rods and a 6-speed transmission — the RD pulled well from 4,500rpm to 6,500rpm, made 39 horsepower, and topped out just shy of 100mph. Not bad for a 350. The reed valve system also improved gas consumption, a constant problem for Seventies 2-strokes. Period tests varied between 35 and 40mpg.

Power, in order to be usable, especially rounding a curve, must be transmitted to the ground in an organized way. Here, the Yamaha had the benefit of a stiff frame with additional bracing, and gussets around the swingarm and steering head. Contemporary testers were impressed with the RD's stability and ability to change course through a turn when asked.

Power must also be controllable. Although Honda pioneered disc brakes on production motorcycles, period testers described the Yamaha front brake as one of the best on offer, with a master cylinder operating two 1.75-inch pucks on a 10.5-inch disc. *Cycle* liked the setup enough to claim "the little 350 generates enough decelerative force to jerk your eyeballs out." The RD350 took 122 feet to stop from 60mph — not really exceptional by today's standards, but in 1973, the act of making a motorcycle stop well was relatively new; no gorilla grip needed — the brakes on the RD were responsive even under light pressure.

Like most 2-strokes, the RD needed revs to perform, but gearshifts were quick and easy, making shifting anything but a chore. Testers did have some minor quibbles, however. Everyone thought the paint scheme (red with a broad white stripe) was gaudy, the front wheel had a tendency to become airborne under hard acceleration, the seat was uncomfortable after a few miles, and the oil tank leaked.

The real world

Tester's quibbles didn't faze the cool kids who bought RD350s. Many worked on their bikes, adding performance upgrades well-known among enthusiasts. "It's easily modified," Zeki explains. "Rejet the Mikuni carburetors, put on K&N air filters, upgrade the shocks, add a front fork brace, steering damper, expansion chambers and low bars. Remove the centerstand. You can also install DG Radial heads for better cooling and increased performance. You will blow anything up to a 750 into the weeds around town or on the back roads."

With a bike this right, Yamaha wisely left it mostly alone in later model years. The paint scheme changed (solid red with two thin horizontal white stripes for 1974, orange with black stripes as on our feature bike in 1975; testers didn't like them, either), the intake tract was revised in an effort to lower the noise level, and an O-ring was added to the crank near the primary gear to stop an oil leak.

For some reason, a 1975 *Cycle World* test found the brakes were less responsive than the first bike it tested in 1973: it now took 132 feet to stop from 60mph.

Yamaha introduced the 400cc RD400 in 1976, with more horsepower and a thicker and more comfy seat. More weight forwards damped the 350's tendency to wheelie. However, increasingly stringent EPA regulations ended the market for street legal air-cooled 2-strokes in 1980.

Meanwhile, the cool kids grew up — or maybe they mostly grew up. Somewhere in the corner of a mind, the need for speed hibernated, waiting for the right time to blossom forth again. For many, it was finding themselves with an empty nest and some disposable income after years of hard work. The once-cool kids started gravitating to vintage bike races and clubs.

As early as 1991, *Cycle World* predicted the RD350's status as a future collectible. Japanese motorcycle enthusiasts were already snapping up bikes with minor issues for a song. After searching for the right RD for years, Zeki located this original gem a year ago. Once Zeki convinced its engineer owner to part with his RD, Zeki took it home and checked it over — and found there was very little wrong that would not respond to a damp rag and some polish.

"It was beautiful and pristine, in stock condition and unmolested. It had some slight pitting on the spokes and I had to clean the film off the mirrors. That was it," Zeki says.

Zeki has about 20 bikes, but this is one he rides frequently.

PRESS REPORTS

"It offers a combination of two winning features: devastating performance and excitement at a moderate price, and the seemingly contradictory promise of appliance-like reliability."
— *Cycle World, February 1973*

"The bike can burn through switchbacks and carve around sweepers like few in its displacement class and few in any other class. It is easy to start, consumes fuel, oil and spark plugs in moderation, can go over 100mph, stops harder than any production motorcycle in captivity, can countenance highway trips without inflicting pain, and is easily serviced."
— *Cycle, May, 1973*

"The RD350 is in a class by itself. It will comfortably wax all bikes with equal displacement and will out-brake any machine in motorcycling. Keep the 6-speed box in harmony with the power band and the Yamaha will climb mountains as fast as you can ride."
— *Cycle, February 1974*

"Persistent development and an honest-to-God race pedigree have yielded a motorcycle that is as splendid as it is specialized. An expert's motorcycle in every sense of the word, it is a superbike — that simply happens to be short."
— *Cycle, December 1974*

"The Yamaha RD350B is one of our favorite motorcycles. … Its engine will perform comfortably around town, yet can thrill you at the racetrack while embarrassing riders on some bigger bikes."
— *Cycle Guide, March 1975*

The RD is kickstart only, but starting is simple: Turn on the ignition, put the choke lever on and kick — no more than two kicks, even if it is cold. Then you have to wait a couple of minutes for the little beast to warm up. Zeki says the RD will bump start easily if the battery is dead: "Just roll it down a small slope or get a running start, jump on it and drop it into first."

The oil injection works in conjunction with the throttle, so it's best to keep the RD moving. It can get hot if stuck in traffic. "Canyon riding is its realm," Zeki says. "The clutch is light, shifting is light. It's a very responsive bike. It flicks to right and left and is very forgiving for a bike of its era."

The RD had a reputation in the Seventies of being low maintenance, and Zeki reports he has had to do very little to his. "A lot of people take out the oil injection, but I have never had an oil injector fail. I think it is more of a racing issue. Every 3,500 miles I take it to my mechanic, Bob Davis [www.davismotorcycleworks.com] in Santa Cruz, and he checks the carbs and points, changes the condenser and puts in new spark plugs."

Zeki is emphatic about the continuing appeal of the RD. "In my mind, pound for pound, dollar for dollar, the RD gives you the best bang for the buck of any bike built between 1973 and 20 years since. It will give great satisfaction to any rider. It will put a smile on your face." MC

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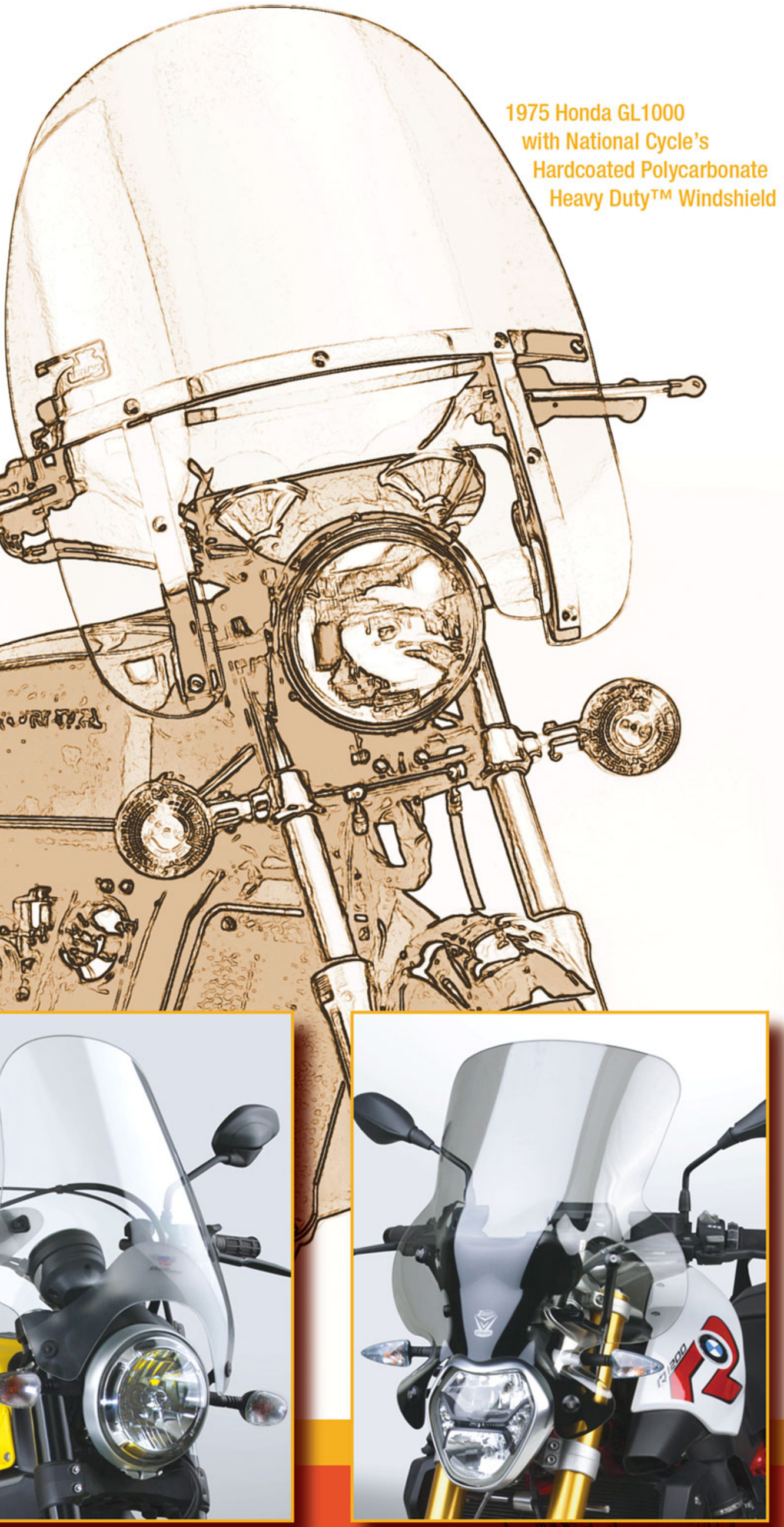

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THE NEW YEAR BIKE

1978 Harley-Davidson XLCR

Story by Margie Siegal Photos by Nick Cedar

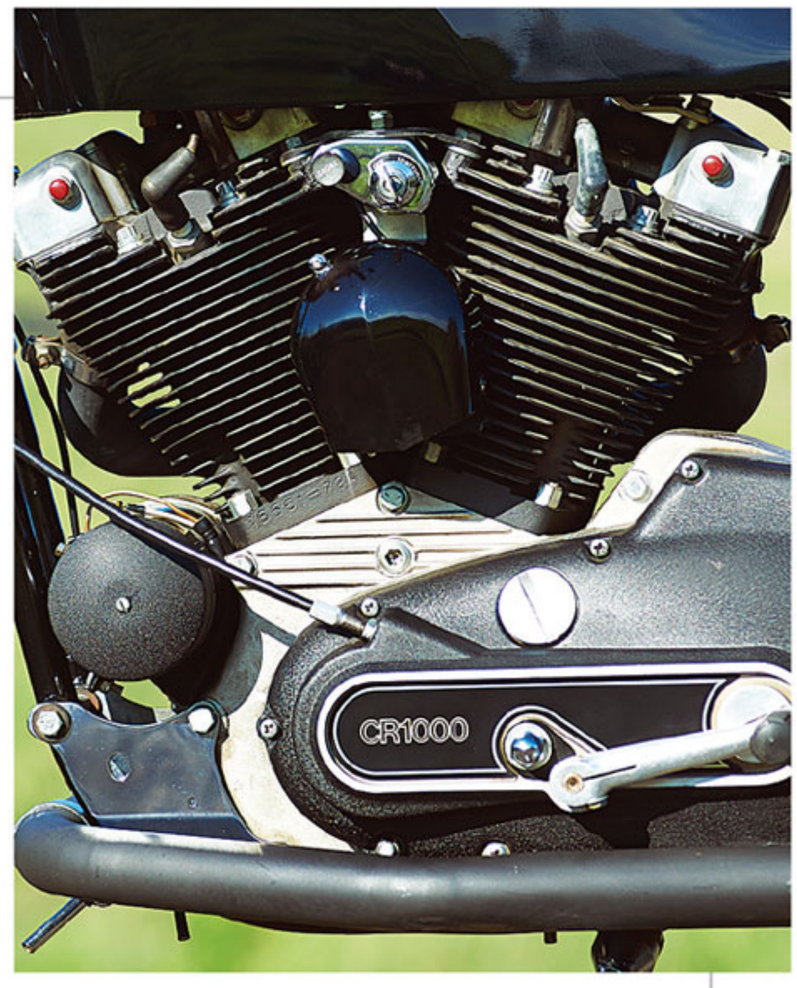
Every New Year's Day, Mark Harrigan, as he has for many years, goes for a ride on his 1978 Harley-Davidson XLCR, a bike he has owned since it was new. This is a little more involved than simply going on a ride, as the Harley spends most of its time in Mark's living room. During the month of December, it sits behind a fully decorated Christmas tree.

Mark's New Year's Day usually starts with the family project of taking the tree down and putting the ornaments away for another year. He then gets out a couple of ramps, making sure there's no sticky goop on them before using them to bridge the steps between the living room and the garage. He then pushes the Harley out into the garage and installs the battery, which has been patiently waiting on a trickle charger. He checks the tires and the oil. He inspects the chain and the brakes. He adds some fresh gas. He pulls out the choke. Then he hits the button. "It cranks twice and fires, every time," Mark says.

Like many kids who grew up in the Sixties and Seventies, Mark started

1978 HARLEY-DAVIDSON XLCR

Engine: 61ci (997cc) air-cooled OHV 45-degree V-twin, 81mm x 96.8mm bore and stroke, 9:1 compression ratio, 61hp @ 6,200rpm (claimed)
Top speed: 106mph (period test)
Carburetion: Single 38mm Keihin
Transmission: 4-speed, chain final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual-downtube tubular steel cradle/1,489mm (58.5in)
Suspension: Telescopic forks front, dual shocks w/ adjustable preload rear
Brakes: Dual 9.875in (251mm) discs front, single 9.75in (248mm) disc rear
Tires: 90/90 x 19in front, 110/90 x 17in rear
Weight (wet): 485lb (220.5kg)
Seat height: 31in (787mm)
Fuel capacity/MPG: 4gal (15ltr)/40-50mpg
Price then/now: $3,595 (1977)/$12,000-$18,000



out riding small, offroad machines. By 1978, he was the proud owner of a Suzuki GS1000 and a big-bore Yamaha. Even though he was just 21 years old, Mark had an appreciation of classics. "I had an early appreciation for old cars, and I felt that some things had a collector's value," he says. One June day, Mark was hanging out on his lunch hour, idly going through the local newspaper when he saw an ad posted by a nearby Harley dealership for a Harley-Davidson XLCR Sportster, out the door for $2,900. Here was a classic, sure to become a collector's item Mark thought, and it was on sale! He ran over to the shop after work — "It was little more than a glorified garage," he says — and maxed out his credit card to buy it. It was the first Harley Mark had ever owned.

AMF days

Harley-Davidson was going through major changes in the 1970s. In 1969, short on capital and with shareholders wanting out, Harley-Davidson, Inc. sold itself to American Machine & Foundry (AMF), a company interested in diversifying into what its executives thought as "the leisure market." Between the Honda campaign to make motorcycles mainstream and the rise of the baby boom generation, motorcycle sales were skyrocketing. Harley wanted to catch this wave, but didn't have the money to expand production. At the time, selling to AMF seemed like a good idea.

AMF poured money into Harley-Davidson. The machine tooling was upgraded and production rose astronomically. However,

Top left: Mark Harrigan's XLCR still wears the original Goodyear tires from 1978. The bike is as original as they come. The odometer reads just 1,776 miles from new.

the push to produce led to worker unhappiness, strikes and quality control breakdown. From the Thirties through the Fifties, Harley was known for a quality product. In the Sixties and Seventies, Harley unreliability became a punch line for jokes.

Yet many people at Harley-Davidson cared, and slowly problems were fixed and the bikes got better. Harley-Davidson was heavily into racing, fighting the up-and-coming Japanese factories and the waning, but still fast, Triumphs, BSAs and Nortons. It was a time when racing, especially flat tracking, was very popular. Looking to do something new, Willie G. Davidson, grandson of co-founder William A. Davidson and then head of the styling department, looked back a few years to the renegade Ton-Up British street racers of the Sixties and thought a café racer (with some flat track notes) might be a good idea. His immediate inspiration was a Sportster he saw in the company garage that Harley engineer Bob Moderow had equipped with a bikini fairing, drag bars and a black exhaust.

Harley offered a dual seat as an option for 1978, but Mark's bike wears the standard solo saddle.

The Café

According to Jim Haubert, a machinist and fabricator who was then working as an independent contractor after leaving the Harley racing department, the XLCR project started when Willie G. called a meeting in April 1974 with Haubert and Moderow. Willie Davidson wanted to develop the look of that Sportster he saw in the garage, and was also interested in a rear frame change drawn by Moderow that was inspired by the XR750 dirt tracker. Haubert was to modify the frame to match Moderow's design. To show just how low budget things were at Harley when this meeting took place, Willie Davidson donated his company Sportster (loaned to him by Harley — Harley loaned its executives a bike every year at this time) for the chassis Haubert was to customize. Moderow was soon pulled off the XLCR project to put out a fire in another department, leaving Willie Davidson and Haubert to soldier on.

"Because there were never any blueprints, I was actually a co-creator of the bike," Haubert says. "It was the creation of two artists working in close communication with each other with vital direction from a third, Bob Moderow. Dean Wixom also deserves credit for designing the seat and fuel tank for the 1970 XR flat tracker, which were modified for the prototype."

The prototype was finished in February 1975 and shown to Harley management, who decided to go ahead and build the bike. An engineer named Ching Lo designed the siamesed pipes, which were supposed to improve horsepower. At the time, getting more horsepower out of the Sportster was a priority. The bike was falling badly behind other contemporary motorcycles in quarter-mile tests, and everyone was convinced that good quarter-mile performance sold bikes. Another year went by, during which six pre-production motorcycles were built and subjected to extensive testing.

Mark rides his XLCR just twice a year, on New Year's Day and the Fourth of July, but he puts about 25,000 miles a year on his collection of bikes.

The XLCR finally saw the light of day in 1977, accompanied by a splashy advertising campaign that leaned heavily on the Willie Davidson connection. The XLCR was powered by the same 61 cubic inch (997cc) Sportster engine as the rest of the 1977 Sportster lineup, but with the modified frame produced by the Moderow/Davidson/Haubert collaboration, a reworked gearshift linkage to match the frame, lower gearing, a special gas tank, triple disc brakes and an all-black finish. List price was $3,595, plus tax and setup.

The market responds

In the late Seventies "custom" bikes — think Chopper Lite — were becoming popular. The XLCR was different. In fact, it was like nothing else Harley-Davidson had ever built. Contemporary testers (most of whom were racing and sport bike fans) liked the looks. "The highest stare factor since Lady Godiva," said *Cycle Guide*. Here was a Sportster that actually looked like a sport bike. They also liked the fact that the XLCR had a few more horses than the rest of the Sportster line, and they liked the cast alloy wheels, the 4-gallon gas tank and the reasonable — for a big bike — 515-pound curb weight.

Objections were made to the rear shocks, which, as modified for the XLCR, had a mere 2.3 inches of travel. Although

Jim Haubert and the XLCR prototype

Jim Haubert is a little grayer than he was when he was working on the XLCR back in the mid-1970s, and he now lives in Arizona instead of Wisconsin, but he still enjoys machining and fabricating parts for motorcycles and Harley-Davidsons, and he lights up when talking about his work with Harley in the Seventies.

Haubert came to Harley's attention through his drag racing. He learned his trade in his father's machine shop in Milwaukee, and in his spare time used his skills to build fast bikes. In February of 1972, he was offered the chance to work in Harley's racing department. "I was the experimental machinist — I wasn't experimental, that was my job title!" he says. In fact, he was the only machinist in the racing department.

The dream job in Harley's racing department didn't work out like he thought it might, and a year later Haubert left to start his own business. He had made contacts at Harley, however, and in late 1973 he was approached by William Davidson, then chairman of the board, to restore a 1920s single-cylinder "Peashooter" racer, which is now on display at the Indianapolis Speedway. William Davidson was Willie G. Davidson's father, and Haubert met Willie G. through Mr. Davidson. Several months later, Willie G. asked Haubert to work on the XLCR project. It took 10 months to complete, and once the prototype bike was done Haubert took it to Greg Polak, a commercial photographer friend. Haubert had a complete set of photographs taken and delivered the photos and bike to Harley. Willie G. liked the results.

Former H-D machinist Jim Haubert.

Haubert worked on other prototypes, including the prototype Low Rider, the 1979 XL prototype, an FL engine/transmission unit merged with an XL chassis, the prototype Wide Glide and the prototype Softail. He was also responsible for restoring the 1903 Harley for the Daytona exhibit in 1976. Eventually, Haubert branched out into mechanical instruments, electron microscope repair, work for NASA and ultra-high-vacuum welding. However, his favorite project remains the XLCR — even if it didn't sell. He is currently reconstructing a twin of the original prototype. "It was too extreme for the market," Haubert says. "But the important thing was, the project broke new ground within Harley-Davidson, particularly in the area of quality control." — *Margie Siegal*

In 1977, the $3,595 asking price of a new XLCR was a lot when a new Suzuki GS750 could be purchased for around $2,200.

contemporary testers thought they were the same as the stock Sportster shocks, Haubert says they were sized from the XR750. Testers also found the rear shock springs too stiff, with seal friction making matters worse. Lower gearing helped *Cycle World* generate a quarter-mile time of 13.08 seconds in tests, which at the time put the XLCR in the middle of the Superbike pack. Although the XLCR had triple disc brakes, hard brake pad material chosen for long pad life caused the bike to eat up 201 feet to stop from 60mph. By comparison, a stock Sportster with a single front disc and drum rear could stop in 165 feet. The stiff clutch was the subject of jokes and testers couldn't reach the turn signal button and keep the throttle open at the same time, but everyone loved the bike's looks and its great sound — "exhaust booming off mountainsides," as one journalist put it.

Testers were surprised, however, that the XLRC's minimally padded seat was comfortable for long rides and that the clip-on bars were in the right ergonomic spot for most people. "You have a café racer version that is more comfortable and practical than the touring version it's based on. Surely, this is a first," *Cycle World* said.

The $3,595 asking price was considerably more than the standard Sportster's $3,131, and was at the time a high price for any motorcycle. In 1977, the top of the line, full-tilt touring BMW R100RS would set you back $4,500 and a Suzuki GS750 could be bought for around $2,200. Unfortunately for Harley, the XLCR's head-spinning looks were not enough to justify the high price for many riders, and the lack of passenger accommodations didn't help. Harley offered a dual seat as an option for 1978, but by that time it was obvious the XLCR was an answer to a question nobody had asked. The model was discontinued, but many of the XLCR's cycle parts were repurposed for the 1979 Sportster, which looked more like a traditional Harley-Davidson and sold a lot better.

Mark's XLCR

The XLCR sat on dealers' floors. Some dealers, like the shop that Mark Harrigan bought his bike from, gradually discounted the model until it moved. Even when new, a few people thought that they would be collector's items. They looked for discounted new machines, pickled them and sat back, waiting for the bike to appreciate.

After he bought it, Mark rode his XLCR around some, but felt it was best to keep the mileage down. Yet even with this limited exposure to the Harley experience, he got bit by the Harley bug. The Honda versus Yamaha wars in the early 1980s, when Honda and Yamaha battled to undersell each other, affected him. "I wanted to buy American," Mark says, so he bought a Harley Low Rider, eventually putting 109,000 miles on it. "I own eight or nine Harleys now," Mark says, and he buys another Harley every five years — he has learned to pace himself — and puts around 25,000 miles a year on his collection of bikes, which includes a Honda Dream. "I just love riding it."

Although 1970s Harleys were "a joke and junk," Mark says that once management understood and implemented quality control measures in the late Seventies and early Eighties, the bikes became reliable transportation. "My Harleys have been great bikes, and very reliable."

The reliability of the XLCR has been noted by many people, most notably motoscribe Peter Egan, who once wrote that, "Compared to other vintage bikes I have owned (from an island nation that shall remain unnamed) the Harley has been a paragon of reliability." Mark says his XLCR has always run well, despite being static in the living room for long periods of time. "It amazes me, it's so simple to maintain. I change the oil, get on the bike, push the button. It goes."

Mark also thinks it's a good ride. "It wasn't as good a handler as the Suzuki 1000 I had back in the day, but it's not as bad as the Harley haters made it out to be," he says. "It's a relaxing ride on the freeway; you don't have to lean over a lot. In fact, it's more comfortable on the freeway than big Japanese multis. Cruising speed is 65-70mph and it will do more, but the vibration gets annoying. The brakes are more than adequate."

With his annual New Year's Day ride over, Mark rode the XLCR home, took the battery out and put it back on the trickle charger. Once the engine cases were cool, he rolled the XLCR up the ramps and back into the living room, where it sits patiently waiting for its next outing on the Fourth of July, when Mark will celebrate Independence Day by going for a ride on his old Harley. MC

A TALE OF EVOLUTION

Honda Gold Wing GL1000

Story and photos by Clement Salvadori

Looking back, it's easy to think the first Gold Wing in 1975 was a revolutionary motorcycle. It was, in fact, evolutionary, built to appeal to the American bigger-is-better theory. Today, the Gold Wing is an icon of cross-country touring. But back in the day, it was just Honda's best guess at what Americans wanted in a big road bike.

Bean Counters

In the well-lit upstairs offices of any large corporation you'll find legions of employees who do nothing but analyze things like costs and expectations. Like any huge corporation, Honda's headquarters had (and has) bean-counters by the bushel, and founder Soichiro Honda, impressed by the strength of the American market, wanted to build a motorcycle that would specifically appeal to U.S. buyers: He told his boys to look into it.

Price-point analysis is an unrefined art, dedicated to the unvarnished truth of the bottom line. If the cost of any piece of the product can be reduced without harming its function, it's done. In our industry it boils down to the MSRP (Manufacturer's Suggested Retail Price) of the envisioned competition; in 1975 the Harley-Davidson Electra Glide cost $3,555, (with bags and fairing standard); BMW's R90/6, $3,395; the Moto Guzzi 850-T, $2,699; and the Kawasaki Z-1, $2,475. Honda slotted its planned new model right in the middle at $2,895.

The second consideration was how many of the new model they could sell. With the memory of tens of thousands of CB750s sold in that model's first year fresh in mind, the prognosticators were hoping for something similar. Soichiro's notion was to build something grand, something luxurious and powerful that would make the Honda marque stand out as it had with the CB750. And he did not want to go head-on against Kawasaki's 903cc Z-1, which had effectively eclipsed his own CB750. Instead, he wanted to light a new path with a very different motorcycle that would have the cycle-buffs applauding.

Too big

Soon after the introduction of the CB750, the R&D staff at Honda was contemplating new concepts. They saw how popular the 1,200cc Harley-Davidson was in the U.S., and figured if Americans liked 600lb motorcycles, Honda could build one.

Soichiro knew his new bike needed a smooth, four-cylinder engine. He'd already created a superb inline four, so he was left with either a V-four or a flat four. Both designs had been tried with limited success in the 1930s, with the Matchless Silver Hawk V-four and the Zundapp K800 boxer four. Soichiro settled on a flat four, but it was almost a flat six.

Early in the project, R&D worked up an opposed,1,470cc six-cylinder, shaft-drive prototype. But when it was all bolted together it was too big, too long and too heavy by the standards of the day, when 750cc was considered a big motorcycle.

Honda went about pruning back the prototype, and the GL1000 Gold Wing (the name came from the Honda logo, a golden wing)

Not as big as it looks: Compared to current touring bikes, the GL1000 seems small and lithe.

introduced in late 1974 had a 999cc opposed four-cylinder engine, a wheelbase of 60.6in and a curb weight of 650lb. This was a hundred pounds more than the Z-1, which many pundits thought was the motorcycle the GL was supposed to beat. This was not necessarily so; the Z-1 was a rev-happy machine, sullen under 5,000rpm, arm-socket-wrenching above. The GL1000, which had almost the same power and performance, was calm, quiet, and comfortable. Honda was broadening the field, rather than going head to head.

Evolutionary

There was little truly remarkable or innovative about the Gold Wing, yet it was so well executed it seemed like the Gold Wing represented a new frontier in motorcycle technology.

Take, for instance, the Gold Wing's liquid cooling. Scott motorcycles in England had been water cooled for over half a century, right up to the mid-1960s, and Colonel H.C. Holden of the Royal Engineers had his water-cooled, flat-four-powered motorcycle on the market in 1900. And Suzuki had presented its GT750, a liquid-cooled in-line triple, in 1971.

Then there was the matter of operating the overhead cam-

1975 HONDA GOLD WING

Engine: 999cc liquid-cooled OHC flat four, 72mm x 61.4mm bore and stroke, 9.2:1 compression ratio, 80hp @ 7,500rpm (claimed)
Top speed: 129mph (period test)
Carburetion: Four 32mm Keihin CV
Transmission: 5-speed, shaft final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle/60.6in (1,536mm)
Suspension: Telescopic forks front, dual shocks w/ adjustable preload rear
Brakes: Dual 11in (279mm) discs front, single 11.5in (295mm) disc rear
Tires: 3.5 x 19in front, 4.5 x 17in rear
Weight (w/half tank fuel): 626lb (284kg)
Seat height: 31.6in (802.6mm)
Fuel capacity/MPG: 5gal (19ltr)/32-40 (period test)
Price then/now: $2,895/$4,500-$10,000

shafts, one on each bank of cylinders. Bevel-driven overhead cams had been around since before World War I, followed by chain-driven and gear-driven cams, but in 1975 toothed rubber and fabric timing belts were a decided rarity. The 1971 Moto Morini 3-1/2 used a short belt to turn the camshaft in its OHV V-twin, and in 1975 Ducati was already planning to use belts in its OHC V-twins. Belts are both less expensive and quieter than chains or gears, the only drawback being the need to change belts before they wear out and break. On the Wing this is an easy job, done by removing the front cover from the engine.

An interesting touch is a gear-driven alternator rotating in the opposite direction of the crankshaft, helping to counter-balance the slight sideways surge of the longitudinal crankshaft when the throttle is blipped at rest, a phenomenon that BMW riders know well.

Also, a cush drive is fitted aft of the crankshaft, reducing the jerkiness that can result from abrupt on/off throttle action. The idea was to deliver power smoothly. Another interesting feature is the complicated linkage operating the four 32mm Keihin carburetors, allowing one cable to open and close the quartet.

Then there's the gas tank sitting under the seat, with the mechanical fuel pump's drive coming off the end of the right-side camshaft. Carrying 5gal of gas up high would give the rider 35 extra pounds to balance, but down low it helps to centralize mass. This is a big bike, and Honda wanted to reduce any balance issues to their most manageable proportions. This left the faux tank to become a small glove box. Pop the top and the sides fall away, revealing all the fuses and electrical paraphernalia, a top-off tank for the cooling system, a tool kit and a kick-starter lever, just in case.

To keep the wheelbase within acceptable lengths, the multi-plate wet clutch and 5-speed transmission are tucked under the engine. A Hy-Vo chain provides primary drive, and a shock-absorbing system is built into the countershaft sprocket and connected to a shaft final drive. This was a first for Honda, who wanted to make absolutely sure the drive shaft assembly aided in the smoothness of power delivery; the Wing's drivetrain was tested for a full year before the 1974 show in Cologne, Germany.

PRESS REPORTS

"The GL's low center of gravity gives it an extremely responsive feel for a machine that weighs close to 650 pounds. The only time the rider notices the difference in feel from one of the 750s, which weigh about 125 pounds less, is when the big bike is muscled through a series of tight switchback turns."

— *Cycle,* April 1975

"The GL1000 is a prestige machine and a winner … despite its few shortcomings. It is nimble for its weight, as smooth as good Scotch, and as quiet as time passing. It may soon be the touring machine on American highways."

— *Cycle World*, April 1975

"The Honda 1000 is the most vibration-free motorcycle we've ever ridden. The engine feels as smooth and distant as a luxury-class V-8 automobile engine."

— *Cycle Guide*, April 1975

"On the two-lane road, we started moving the Honda around and again appreciated a tremendous versatility. It really handles. It doesn't flick, because sheer weight and length negate that possibility. But it moves easily, agilely, surely and almost lightly … as much like a good 750 as anything else."

— *Rider*, Summer 1975

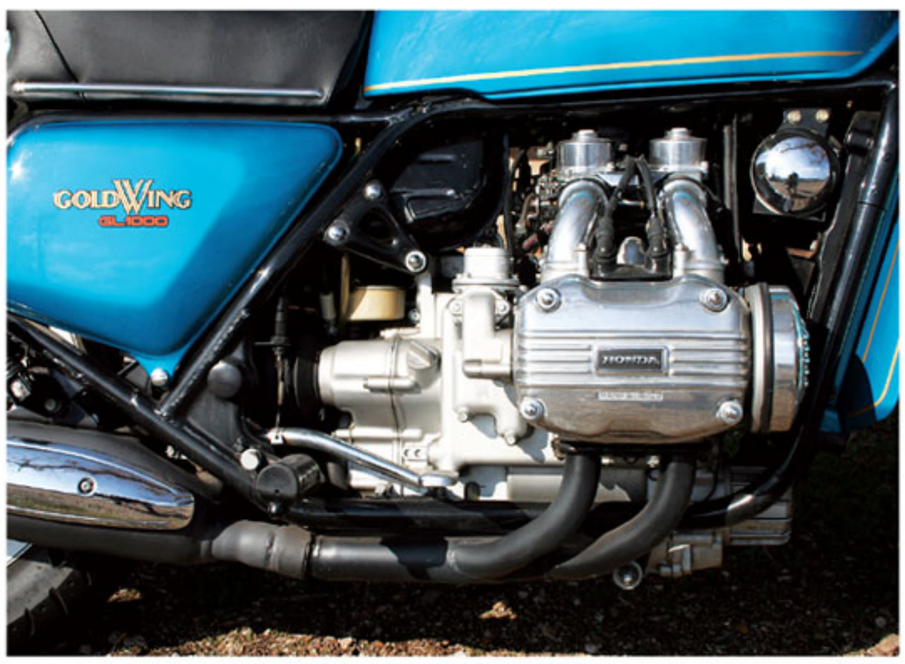
The rear wheel on the GL was a smallish 17in, but with a fat 4.0in tire like the Harley. It also sported a disc brake, a relative novelty, and people oohed and aahed over that fact, not appreciating that Harley had been using one for several years. The front wheel was a more standard 19in, with dual discs.

Here's looking at you, Wing

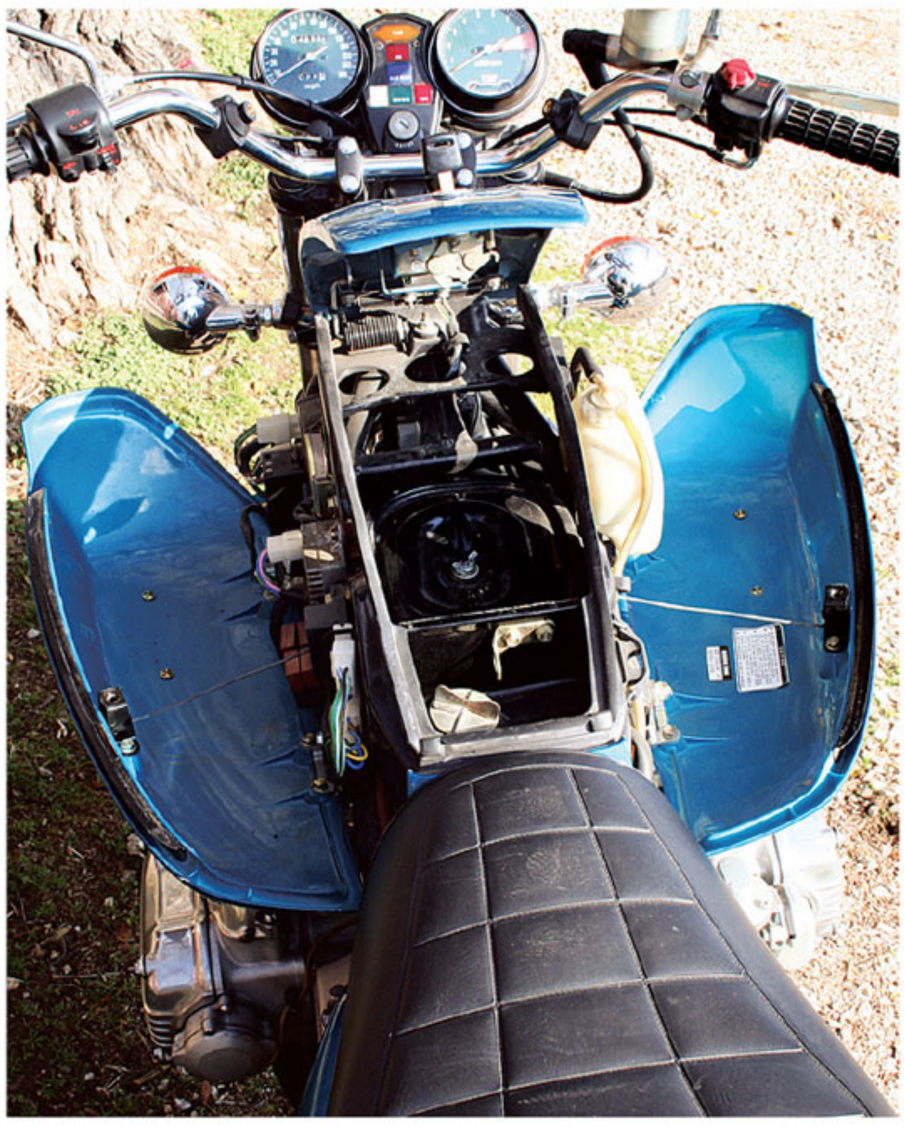
Aesthetics are in the eye of the viewer, but not everybody liked the form of the GL. Large side-panels kept the under-seat gas tank from view, but gave the bike a slightly porky air. For 1975 the colors were Candy Antares Red and Candy Blue Green (as on the photo bike); the Sulfur Yellow that many people think was on the original Gold Wing was a 1976 color.

When journalists got their first taste of the GL1000, they were pleasantly surprised. With a claimed 80hp, it turned 13-second quarter-miles at over 100mph. And it was a helluva lot smoother than a Z-1, especially when consuming 500-mile days; with a top speed of 120mph you could go as fast as you wanted for as long as you wanted. The worst thing you might suffer was a numb bum, as the seat padding is woefully thin, reflecting an effort to keep the Wing's seat height to under 32 inches.

The Wing is also unbelievably quiet. The liquid cooling keeps engine noise well abated, while a gigantic exhaust system gives a whispery exhaust note, even at 8,000rpm. The only real disappointment is the suspension, with rather stiff 37mm front forks giving 5.6in of travel, and less-than-compliant rear shock absorbers having 3.4in of travel. The factory thought some riders might try to dice with sport bikes, and best to be too tough than too weak, but limited cornering clearance kept the seriously sport-minded crowd away, as they preferred the CB750F.



The GL1000's horizontally-opposed flat four keeps weight down low, and is actually 1in shorter and 3.5in narrower than BMW's 900cc twin of the same era.



The GL's "gas tank" flips open to give access to various bits and the bike's tool kit. The real tank is under the seat.

Tour master

The Wing really appealed to travelers wanting to go from St. Louis to Denver in a day. Touring riders took the bike to heart, and the aftermarket boomed like nothing ever seen before, from frame-mounted fairings to hundreds of chrome doodads to make your Wing, well, yours.

More than 13,000 Wings were sold in the U.S. in 1975, and as Honda saw how popular it was as a touring machine, its engineers began making small changes to boost its appeal in the category. Realizing that mid-range power was more important to these riders than top end, for 1978 the cams were changed and carbs reduced to 31mm for more low-end muscle, at the expense of a half-second in quarter-mile times. The forks were upgraded slightly, providing an inch more travel and better damping, and new shocks were fitted with improved damping characteristics.

Early reports of weak braking in wet-weather conditions roused the interest of the U.S. Department of Transportation, so new discs, calipers and pads were added. A recall was also made on all earlier models so that dealers could install new rear brake pads. Also in 1978, Honda's Comstar wheels replaced the spoked wheels, which struggled with the speed and weight of the bike, especially with an aftermarket fairing and luggage bolted on. The saddle was improved, as was the whole styling motif. With changes to the faux tank and side panels, the new GL looked more like the CB750F.

The Gold Wing was a wild success; according to Honda over 97,000 GL1000s were sold in this country from 1975 through 1979. And come 1980, major changes were in order. The original, Japanese-made GL1000 was replaced by the new GL1100, built at the new Honda plant in Marysville, Ohio. It was now a real American motorcycle. MC

TRIPLE THREAT

1971 BSA Rocket 3

By Margie Siegal
Photos by Nick Cedar

"I've owned new bikes," Bill Whalen says, "but I still prefer my Rocket 3. Once you have a properly sorted triple, they are great bikes, especially if you plan to cover any distance."

Bill has lots of experience with the 3-cylindered bikes from Britain — he now owns six, and one, a 1969 Rocket 3, has over 100,000 miles on it. Bill's favorite ride was, in fact, the first Superbike of the Sixties — and it was also BSA's last hurrah. Powered by a 741cc, air-cooled 3-cylinder engine, it was, for a brief period, the fastest production motorcycle available.

Rocket to nowhere

The history of the triple is an excellent example of how the British motorcycle industry put itself out of business. It was designed at the Triumph works at Meriden by Doug Hele, Bert Hopwood and Jack Wicks, as BSA owned Triumph by this time. Hopwood had the idea in late 1961, and Hele had drawings by October 1962, but the idea was not officially shown to Triumph management until 1964, when rumors of a 4-cylinder street bike from Honda began to surface.

The triple could have been in showrooms by 1967, two years ahead of the Honda CB750, but management slowed the bike's development when it handed the job of styling the new triple to Ogle Design, an outside styling house with no motorcycle experience, which spent more than a year on the job. The first triples looked unappetizingly bizarre (Ogle was famous for styling avant-garde toasters, which goes a long way toward explaining the styling on the first Rocket 3), and needed extensive re-styling following the America-only launch in 1968. England and Europe got their first Rocket 3/Trident shipments in 1969. The 1969 Trident was released at the same time, and though not identical, the Trident is very similar to the Rocket 3 (see sidebar).

Unfortunately, Honda introduced the revolutionary CB750 shortly after the launch of the Rocket 3 and Trident. Although its handling wasn't the best, it was oil tight and featured an electric starter, an overhead camshaft and a front disc brake. Honda sold an estimated 30,000 CB750s in 1969, against some 7,000 Rocket 3s and Tridents.

Yet the big BSA was still a contender. In March of 1970, *Cycle Magazine* organized a comparison between seven Superbikes of the era: a Norton Commando, a Kawasaki H1, a 750 Honda, a Suzuki Titan, a Harley Sportster, a BSA Rocket 3 and a Triumph Trident. The Rocket 3 came out well, tying with the Honda for best lap times on the track. Its double-leading-shoe front brake performed well for the time (the only bike in the comparison with a front disc was the Honda), and testers called the Rocket 3 an easy bike to ride fast, its good weight distribution making it easy to fling into corners.

But these were bad times for BSA, which was losing roughly $6 million annually during 1970-1972, due largely to gross mismanagement, even though its Triumph subsidiary was actually showing a profit. Despite (or possibly because of) the financial squeeze, BSA decided to go road racing.

Three BSA Rocket 3s and three Tridents awaited the green flag at the 1970 Daytona 200. Dick Mann won on a Honda, but Gene Romero took second on a Trident. Dave Aldana

Introduced just before Honda's CB750 hit the market, the BSA Rocket 3 was — at least briefly — one of the fastest production motorcycles you could buy.

took 12th on a BSA Rocket 3 and came back two months later to win the Talladega race at a record-setting speed of 104.5mph. In June, Gary Nixon won Laconia on a Trident. The racing triple came back in 1971, improved with a Rob North frame and twin discs up front. Dick Mann switched to a Rocket 3 and again won Daytona, with Romero second on a Trident and Don Emde third on a Rocket 3.

Despite the good publicity from racing, BSA continued to hemorrhage money. Parliament stepped in, and the decision was made to sell what was left to Dennis Poore of Norton Villiers. The BSA brand was discarded in the fallout of this move, and so BSA, and the Rocket 3, came to an end.

Bill's triples

Bill remembers seeing his first Rocket 3 when the bikes appeared in the U.S. in late 1968. It was in the window of a strange store that was part plumbing emporium, part dive shop and part BSA dealership. "That is what motorcycle dealerships were like in those days," Bill explains. "The styling of the Trident and the Rocket 3 was quite different and not what you would call an immediate success. The Trident suffered more than the Rocket 3, due to its green coloring, which was referred to by one of the motorcycle magazines as 'sea bottom green.' At least the Rocket 3 was a nice red color. I liked the Rocket 3, but like many other Triumph riders at the time, I was

1971 BSA A75R ROCKET 3

Engine: 741cc air-cooled OHV inline triple, 67mm x 70mm bore and stroke, 9.5:1 compression ratio, 58hp @ 7,250rpm (claimed)
Top speed: 115mph (period test)
Carburetion: Three Amal Concentric 626
Transmission: 5-speed, chain final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle/58in (1,473mm)
Suspension: Telescopic forks front, dual shocks w/ adjustable preload rear
Brakes: 8in (203mm) TLS drum front, 7in (178mm) SLS drum rear
Tires: 4.10 x 19in front and rear
Weight (dry): 444lb (201kg)
Seat height: 31.25in (794mm)
Fuel capacity/MPG: 3gal (11.3ltr)/40-45 (period test)
Price then/now: $1,678/$4,000-$26,000

perfectly happy with my Triumph twin."

In 1972, Bill and his wife, Linda, decided to vacation in Europe. "I kept seeing these ads, go to Europe and buy a bike, and I decided to buy a Trident to ride on the trip," he recalls. "We bought a black and white 1971 Trident from a dealer in Coventry, England. We got three miles from the dealership and oil was pouring out all over the engine. We went back, and the dealer was very apologetic. It turned out the factory had left the gaskets out of the pushrod tubes. He fixed the bike and we left for a 3,000-mile tour of England and the Continent. We had no more major trouble, but it was all these little things — the bike was completely unsorted. We brought the Trident back with us, but I went back to riding the single-carb twin."

Bill sold the Trident, which ended up at a dealership. It was still gathering dust in a corner when Bill, who wanted a new Bonneville, walked in. It was 1976, and the Trident was not a sought after item. The dealer threw it in with the deal.

Fast forward to the 1990s. Bill heard about a woman who had a Trident for sale. "I went to see it. She was mad at her boyfriend, who had left her with it. She insisted I take it. She kept yelling, 'Just get that thing out of here!' and

> "Once set up, a Rocket 3 is as reliable as anything else. I've ridden this triple coast to coast several times, and had no problems whatsoever."

wouldn't take any money." Not long after, Bill spotted a red 1969 Rocket 3 at Britalia Motors in Santa Cruz, Calif. The owner said it didn't run and he didn't really want to work on it. Bill traded the Trident for it, and that Rocket 3 is now his daily rider.

Bill found our feature bike at Raber's Parts Mart in San Jose, Calif., a few years ago. "It wasn't running, but it was all there, all the original stuff. Also, it was a 5-speed — BSA had to make 200 Rocket 3s with the 5-speed transmission to homologate the race bike for AMA racing. It's rare, but I eventually found another, so I now have two," he says with some satisfaction.

As the previous owner had abandoned the Rocket 3 in a storage locker, registering the bike took blood, sweat, tears and multiple trips to the DMV. Restoring it was comparatively easy. Bill had the original exhaust rechromed, replaced the rings, valves and guides, cleaned and reassembled the carburetors and added a Tri-Spark digital electronic ignition. Bill, who is also handy with a spray gun, repainted the tank and bodywork with paint matched to the original.

Keeping it on the road

When Bill Whalen gets a new-to-him triple home, he spends considerable time "getting it sorted" — taking it apart and

Rocket 3 vs. T150 — Spotting the Differences

Simultaneously produced under the Triumph banner as the Trident T150, the Rocket 3's engine was sometimes described as a "Triumph and a half" as it was effectively a 500cc Triumph twin with an extra cylinder.

Camshafts fore and aft of the cylinder block operated the pushrods of the overhead-valve engine, as on the original Triumph Speed Twin. The Trident engine had a timing cover reminiscent of the triangular cover on the twins, while the Rocket 3's cases were more rounded, in keeping with BSA's "power egg" philosophy. The early Trident engine had upright cylinders, while the Rocket 3 engine's cylinders sloped forward 15 degrees, which period testers said gave the motorcycle better weight balance. The Trident adopted the forward slope for 1975 with the substantially revised T160. The 1973 Triumph Hurricane with its forward-sloping cylinders was based on the discontinued BSA platform.

The Rocket 3 frame had dual downtubes, unlike the Triumph, which had a single downtube and a bolted on subframe. Both had Girling rear shocks. The forks for both were borrowed from BSA's 650 line, and the double-leading-shoe drum brake was lifted from the Triumph Bonneville.

BSA triple tilts forward 15 degrees, Triumph frame has single front downtube.

The Rocket 3 remained basically the same for 1968-1970, with a black frame and forks and body-colored fenders. 1971 models were distinctly different, with a "Dove Grey" painted frame (many were painted black by dealers), tapered megaphone mufflers, chrome fenders, a new seat and tank, conical hub wheels and different forks without gaiters. — *Richard Backus*

putting it back together. Dr. Bill's prescription for the ills of the typical triple works: He's put over 100,000 miles on his daily rider Rocket 3, and it is still running strong. "Once set up, a Rocket 3 is as reliable as anything else," he says. "I've ridden this triple coast to coast several times, and had no problems whatsoever."

Bill continues: "At the time these were built, it was rather difficult to keep them from leaking oil. Now you can do it. Copper base gaskets, rocker box and head gaskets are available now — they weren't at the time. You used to have to torque the head 10 or 12 times to get it to seal properly, but with copper gaskets, you torque once at 500 miles and you are done. Today, you can get hardened mushroom valve adjusters, better valves, valve guides and hardened lash caps, which all help the top end longevity.

"Amal carburetors will work properly if assembled and adjusted properly. I drill and tap all three intakes so I can set them up with vacuum gauges, which guarantee all three carbs are in sync. The float levels are often not correct — poor English quality control — and I check them before assembly. Once set up, Amals will work well and will not go out of tune.

"As far as Lucas electronics, the main problems are caused by the people who work on them. The owners are as bad as the dealers and the factory. The problem is often poor wiring. Ignition timing was always a problem with three sets of points. Tri-Spark electronic ignition for triples is excellent — it draws less current than a Boyer or a Lucas Rita, so I can run a halogen headlight."

> "At the time these were built, it was rather difficult to keep them from leaking oil. Now you can."

When it comes to riding, Bill tends to compare our feature bike to his trusty 1969 Rocket 3: "The front end is longer and lighter, due to the different bodywork and the smaller tank. It's a little more nimble. I take the '71 on club rides, which tend to be 100 miles or so over twisty roads, and the '71 does better on little roads in the mountains than the '69. A friend of mine rode the '69 for a bit, and pronounced, 'It handles like a Buick.' It has a big cushioned seat and soft suspension and I sometimes ride 500 or 600 miles a day on it. The '71 has a harder seat and suspension — I don't think I could do the same mileage on the '71. On curves, the limiting factors are the rigid pegs, the low mufflers and the lack of crankcase clearance. The '71 would do very well on a racetrack. It likes smooth roads and big sweepers."

So if you see a red Rocket 3 rolling down a Nebraska highway or an Idaho mountain road, there's a good chance it might be Bill, out enjoying himself. Go ahead, give him a wave — he's a friendly guy. And don't worry about the Rocket 3. It's getting Bill where he wants to go, and putting a smile on his face while doing it. MC

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MOTO GUZZI
V7
SPORT
MOTO GUZZI

SEX APPEAL

1973 Moto Guzzi V7 Sport

Story by Greg Williams
Photos by Jeff Barger

Motorcycles have a certain sex appeal, some more so than others, and the Moto Guzzi V7 Sport is about as sexy as they come. Steven Frazier says this very V7 Sport won him the girl — and he's still married to her.

Built in November 1972 at Moto Guzzi's fabled factory in Mandello del Lario on the shores of Lake Como, Italy, this V7 Sport was imported to the U.S. by Premier Motor Corporation in New Jersey. From there it was shipped to Cycle Craft, a Yamaha and Moto Guzzi dealer in Cleveland, Ohio. There, a young man purchased the V7, but he didn't ride it very long before having an accident. Spooked, he returned to Cycle Craft and traded it off. Enter Steven Frazier.

Steven was a mechanic at the Cleveland shop, and when the V7 was traded back in he bought it. Steven says he used the V7's undeniable sex appeal to court his future wife, Becky. After getting married, the couple moved to a small farm in New York's Finger Lakes. Life moved on, and in the late 1980s the Guzzi was relegated to a leaky shed.

Twenty years later, Steven decided to tear down the shed, and he listed the bike for sale on Craigslist. Tom Pirie spied the advert, and alerted friend and Italian motorcycle enthusiast Don Smith of its availability. Regular readers might remember Don's 1969 Ducati 350 Mark 3 Desmo, featured in the May/June 2013 issue of *Motorcycle Classics*. Don has a penchant for rescuing corroded motor-

1973 MOTO GUZZI V7 SPORT

Engine: 748cc air-cooled OHV 90-degree V-twin, 82.5mm x 70mm bore and stroke, 70hp @ 7,000rpm
Top speed: 125mph (period test)
Carburetion: Dell'Orto VHB 30CD/CS w/accelerator pumps
Transmission: 5-speed, shaft final drive
Electrics: 12V, 180-watt alternator, Marelli coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle/58in (1,470mm)
Suspension: Telescopic forks front, dual shock absorbers w/adjustable preload rear
Brakes: Double-sided 8.7in (220mm) TLS drum front, 7.9in (200mm) SLS drum rear
Tires: 3.25 x 18in front, 3.5 x 18in rear
Weight (dry): 453lb (206kg)
Seat height: 31in (787mm)
Fuel capacity/MPG: 5.25gal (20ltr)/35-50mpg
Price then/now: $2,500 (approx.)/$8,000-$15,000

cycles, and the V7 Sport was ideal. Don called, and sight unseen agreed on a price that included Steven loading and delivering the Sport. It landed at Don's shop in the fall of 2010.

V7: The back story

For Moto Guzzi, the V7 Sport represented a return of sorts to its racing roots. Established in 1921, Moto Guzzi immediately went racing, and until 1957 the marque was a formidable force on racetracks, with multiple Grand Prix World Championships and Isle of Man TT wins to their credit. Yet motorcycle sales had been failing, and when the Italian government banned racing on public roads in 1957, Moto Guzzi decided it could no longer justify the expense of racing.

Moto Guzzi struggled through the late 1950s and early 1960s, building a line of single-cylinder machines. During this period, Moto Guzzi engineer Giulo Cesare Carcano, who had designed Guzzi's famous 500cc V8 GP racer, developed first a 500cc and then a 650cc 90-degree V-twin to power a Fiat 500 car. However, nothing further came of his V-twin design until the Italian police requested a replacement for the aging 500cc single-cylinder Moto Guzzi Falcone.

The company's survival depended on the police contract, so Moto Guzzi dusted off Carcano's V-twin concept and conceived the V7 — so called because of the V shape of the cylinder layout and its 700cc capacity. A civilian version was shown at the 1965 Milan show, but with this workaday motorcycle Moto Guzzi was riding down a road far from its winning ways on the racetrack.

The company's fortunes continued to unravel. Moto Guzzi entered receivership in 1966, and came under new management early in 1967. Fortuitously, Lino Tonti was installed as Moto Guzzi's chief engineer, and along with Tonti came test rider/racer Luciano Gazzola. Tonti's influence was considerable, as he had been connected to several different manufacturers over the years, including Aermacchi, Benelli, Bianchi, Gilera and Mondial.

Tonti soon began tinkering with the V7, which had gone into production in 1967. In an attempt to secure lucrative American police contracts, he enlarged the engine to 757.48cc and provided two tuned models for acceleration tests. Tonti also began chasing speed records using the V7 platform. He increased the compression, installed Dell'Orto SS carburetors and a fifth gear in the automotive-style transmission, which delivered power to the rear wheel via shaft drive. Using the standard V7 frame, fork and swingarm, the tuned-for-speed machines weighed less than 350 pounds, and set several speed records at Monza in 1969. According to Ian Falloon's book *The Moto Guzzi Sport & Le Mans Bible*, Tonti's V7s had a top speed around 143mph.

Moto Guzzi also put the V7 to use on the track, but the V7's

Owner Don Smith lovingly restored this V7 Sport, changing the paint scheme to black with a silver frame.

tall, so-called "loop frame" proved to be a shortcoming, with limited ground clearance. Without redesigning the engine cases, Tonti incorporated small changes to provide more room, including moving the generator from atop the engine to the front so the engine could be raised higher in the frame.

Moving to the Sport

These speed and track successes led Moto Guzzi to believe the company could introduce a new sporting motorcycle, one with a top speed of 125mph, weighing less than 440 pounds (200 kilograms) and including a 5-speed transmission.

Tonti decided an updated chassis was required for this sporting machine, and working out of his own shop he handcrafted two special frames. Although the ultimate intention was to produce street legal machines, these were first developed as racers.

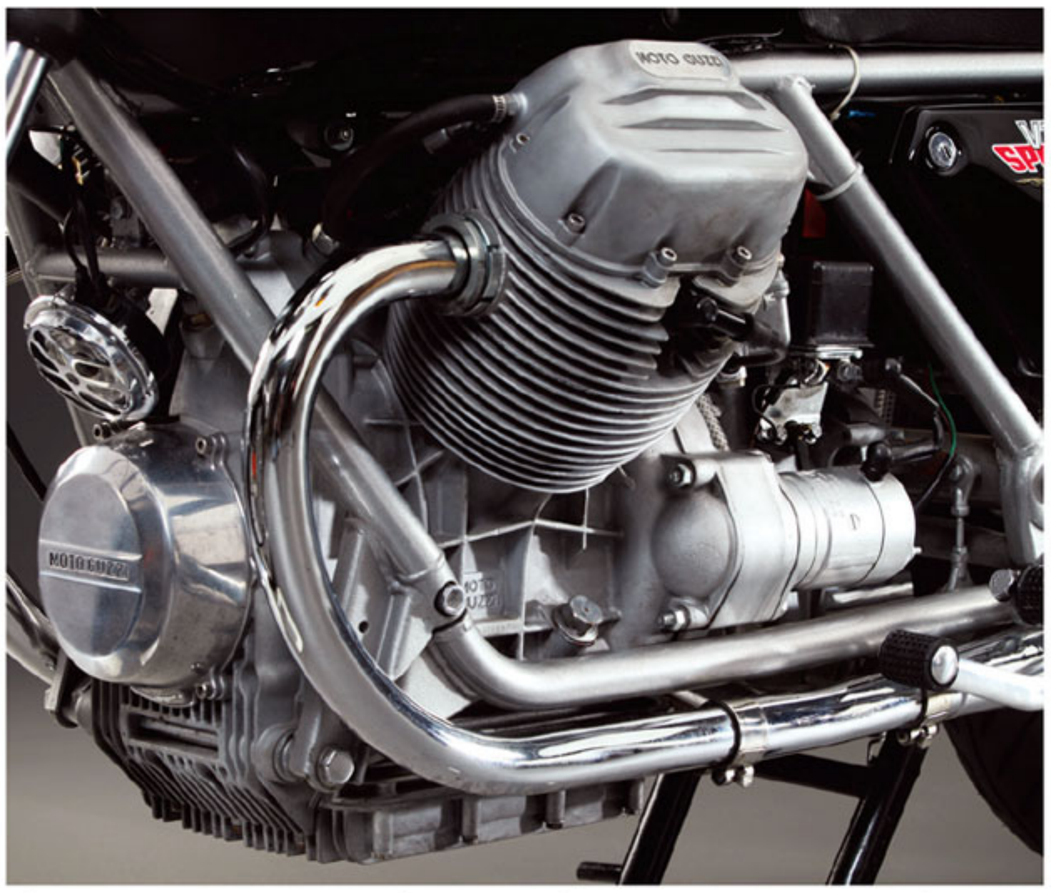
Tonti's frame incorporated triangulated straight tubes, and thanks to the relocated generator it had a lower backbone. The lower frame rails were removable to allow easy engine access, and lighter Ceriani forks, thinner stainless steel fenders and a smaller generator all helped trim weight. With one of the Monza record-setting V7 engines in the frame, Tonti told upper management that factory rider Gazzola was able to shave six seconds off his previous lap time. According to Greg Field's book *Moto Guzzi Big Twins*, that six-second claim was a fib designed to grease the way to production.

According to Falloon, Tonti crashed and broke his leg during testing. Unwilling to give up his role in testing the motorcycle he was creating, Tonti had doctors set his leg in a riding position, carrying his crutches with him on the machine.

Yet after all of the excitement, Moto Guzzi's production manager decided he didn't want the expense of launching a brand-new motorcycle. Upset by this development, Tonti tendered his resignation, but after reviewing the disagreement, Moto Guzzi management finally gave the V7 Sport the green light late in 1970.

Telaio Rosso

Moto Guzzi's 50th anniversary was in 1971, and Tonti wanted the V7 Sport in production for that model year. However, manufacturing tools and dies weren't ready, plus the factory was struggling with labor disruptions. Determined to have a V7 Sport for 1971, the racing department began hand building pre-production prototypes. To meet international homologation rules for production racing, Moto Guzzi had to build at least 100 V7 Sports in 1971, resulting in the Telaio Rosso (literally, red frame) V7 Sport, easily identifiable by their red-painted chrome-moly frame.



The 748cc V-twin produces 70 horsepower, giving the V7 Sport a top speed of 125mph.

Displacement was 748cc with a 9.8:1 compression ratio and cylinder bores were chrome-plated. A high lift camshaft was gear driven via the crankshaft, with Dell'Orto square-slide VHB 30mm carbs, complete with accelerator pumps, feeding the fuel. To cope with the 70 horsepower at the crankshaft (52 at the rear wheel), the lower end was stiffened and the forged steel, single-piece crank and split connecting rods were polished and assembled with stronger nuts and bolts. Lubrication was by a high-pressure crankshaft-driven pump with filtration via wire screen. A dry, 2-plate clutch transferred power to the 5-speed gearbox.

With an estimated 150-204

built, it should come as no surprise that today the Telaio Rosso V7 Sport is the Holy Grail for Moto Guzzi collectors. Engine cases in the Telaio Rosso feature a rough sand cast, and that's the easiest way to discern an original from a homebuilt replica.

"Regular" V7 Sports production started in November 1971, with production bikes using a thicker steel-tube frame instead of the chrome-moly tubes found on the Telaio Rosso. Moto Guzzi planned to continue painting the frames red, but a decision was made to finish them in either black or silver. Also, engine cases were now a smooth die cast, and the transmission featured external webbing. According to Falloon, crankshaft and connecting rods were no longer specially polished, and transmission gears were updated to deal with what was a rather fragile gear set in the original. For the U.S. market, the gas tank and toolboxes were finished in red (maroon), green or lime green.

> "The billet-clamp clip-on handlebars indicate his V7 sport was an early production machine."

Essentially a factory-built road racer, the V7 Sport was fast and agile. In one Italian magazine test, the V7 Sport was clocked at 125mph. Pitted against the Ducati 750 GT, Honda CB750, Kawasaki H2 750 and Laverda 750 SF, the V7 Sport proved fastest. This was the nascent age of the Superbike, and although other manufacturers were producing quick machines, not all of them could handle as well as a Moto Guzzi. The V7 Sport lasted only a few short years, however, and was discontinued in 1974 after De Tomaso took over Moto Guzzi in 1973.

From Steven to Don

When Don took delivery of his rusty V7 Sport, his first thought was to dismantle the bike. Prior to taking it completely apart, he and friend Eric King pulled the heads to check the chrome bores. They were clean and weren't flaking, so they put the heads back on, changed the oil and cleaned the carbs. With fresh gasoline in a test tank and a hot-wired ignition system, Don says the bike turned over four times and purred to life — and actually settled into an idle.

Encouraged, Don commenced disassembly. The exhaust header nuts were stuck tight, so he hung the engine and frame in his garage so he could pour penetrating oil around the exhaust pipe retaining nuts. Every once in a while, he'd walk by the carcass and give the nuts a good crack. It took two months, but they finally broke free.

The frame was perfectly straight, and Don only had to prepare

Don has added some 3,000 miles to his V7 Sport since finishing the restoration.

the surface for silver powder coat. Originally, his V7 Sport was delivered with a black frame and maroon body panels. Because Don had read that U.S. market bikes came with either a silver or black frame, he opted for the more eye-catching silver. Apart from the rusted fork tubes, which Don replaced along with new seals, every other front end component cleaned up and was returned to service. Most of his replacement parts, especially rubbers and cables, came from MG Cycle (mgcycle.com) in Albany, Wis.

The Borrani Cross rims were too corroded to reuse, but Don was able to source a new set. With the wheels apart, he polished the stainless steel spokes, changed the wheel bearings, and surfaced the old shoes in the front and rear drum brakes. On went a pair of Avon tires, and Don installed a set of 320mm Lispa rear shocks in place of the Koni originals.

The Veglia speedometer and tachometer were in surprisingly good condition, and Don simply detailed the instruments and the separate panel that holds four warning lights — oil, ignition, high beam and neutral. The billet-clamp clip-on handlebars indicate his V7 Sport was an early production machine, as later bikes came with stamped steel clamps. The controls, levers and perches were cleaned and detailed, and he polished every piece of alloy. The stainless steel fenders were dent and scuff-free, and these were polished, as well.

As purchased, the Moto Guzzi only had 20,000 indicated miles. After hearing the bike run, Don felt confident he didn't need to take the bottom end apart. The top end was in good shape and he didn't replace the piston rings, or even the points. After sealing everything as best he could, Don bead-blasted the engine and transmission. The transmission and rear drive only required cleaning and buttoning up with new seals.

The most expensive pieces to replace during the restoration were the rotted Lafranconi silencers, which feature "gills" and distinctive slash cut ends. Reproductions are available, but Don found a pair of correct mufflers on eBay. Don kept the Marelli ignition system and cleaned and reused the original wiring harness.

Two of his favorite V7 Sport features are the under-seat courtesy light and the 2.5-watt Sarai electric fuel tap, which opens when the ignition is switched on. Exposed fasteners were chrome-plated, as original, and Bryan Gagnon of B & J Custom Cycles (bjcustom.net) in Shawano, Wis., took care of painting the steel gas tank and lockable toolbox covers. Don notes that black wasn't offered in 1972, but says, "I'm not a complete purist. I have to do some stuff, such as the paint, to satisfy myself. It might hurt the resale value down the road, but right now I'm happy with it." Bob Korth stitched up a new saddle cover for a finishing touch.

Once back together, Don says the V7 Sport started as easily as it did the first time, and in the 3,000 miles he's added to the clock since it's never missed a beat. "I bought this bike because of its handling capabilities," Don says, emphasizing that he bought it to ride. He's a fan of the marque, having traded his 1974 Kawasaki 900 in on a new 1975 Moto Guzzi 850T. "The V7 Sport is a quality bike to ride, and it does absolutely everything very well — I don't see a shortcoming in it at all. It would be as easy to ride it across the country as it would be to the corner store." Now that's a ride we'd like to make. **MC**

Don managed to find a set of correct Lafranconi mufflers on eBay. One of the best looking details on the bike, they were also one of the most expensive.

BAHN STORMER

BMW's high-speed R90S set the motorcycle industry on its head

Story and photos by Roland Brown

The speedometer shows a steady 80mph as the road ahead unwinds from a gentle curve. I'm sitting comfortably, leaning slightly forward to slightly raised handlebars, my chest and head protected from the wind by a neat half-fairing that also contains a clock and voltmeter.

The BMW's big orange fuel tank is full, giving the prospect of 200 miles of nonstop, high-speed riding. Below the tank I can see the engine's cylinders sticking out either side, their gentle rustling almost drowned by a throaty twin cylinder exhaust note. By modern standards the mechanical and exhaust sounds are loud, but they do nothing to mar the BMW's aristocratic air. Nor does the bike's stability as I bank through a series of gentle curves, suspension soaking up the bumps efficiently, the tall-geared engine feeling unburstable. Never mind its generous fuel range; this bike gives the impression that it would cruise at speed and in comfort forever.

Built for the long haul

However long BMW builds flat twins, it's debatable whether there will be another to match the impact the R90S made with its launch in 1974. The half-faired R90S, finished in a stylish smoked-color scheme (gray was the original color, with this bike's orange following as an option a year later), may have been a sportster only by BMW's traditionally restrained standards. But with a top speed a shade over 125mph, it was seriously quick by mid-Seventies standards. The R90S was at its best traveling rapidly over long distances, but there was much more to this bike than sheer speed. Handsome, fine handling, comfortable, well equipped and very expensive, the R90S was arguably the best all-around superbike that money could buy.

The S and its unfaired relation, the R90/6, introduced at the same time, were derived more directly from the previous year's R75 models. Enlarging the 745cc R75's bore from 82 to 90mm while retaining the 70.6mm stroke gave a capacity of exactly 900cc. BMW also took the opportunity to make numerous engine mods, including strengthening the bottom end, plus fitting a revised gearshift mechanism and new alternator.

The S model differed from the humbler R90/6 by having higher compression (9.5:1 versus 9:1), and a pair of 38mm Dell'Orto carburetors with accelerator pumps in place of the basic model's 32mm Bings. Those mods helped lift peak power output from the R90/6's 60hp to a claimed 67hp at 7,000rpm — competitive with everything on two wheels except Kawasaki's awesome 82hp Z1. In addition, the S model had a bigger, 6.4-gallon gas tank, twin 200mm front discs instead of just one, plus, of course, that handlebar-mounted fairing with its useful pair of white-faced gauges above the normal speedo and tach.

The fairing, tank, front fender, side panels and the rear of the slightly stepped dual seat were all visually brought together by that classy paint scheme of subtly changing tones. One drawback of the R90S paint scheme is that it is almost impossible to retouch, meaning that damaged bodywork must be replaced,

1975 BMW R90S

Engine: 898cc air-cooled horizontally opposed twin, 90mm x 70.6mm bore and stroke, 9.5:1 compression ratio, 75hp @ 7,200rpm (claimed)
Top speed: 123mph (period test)
Carburetion: Two 38mm Dell'Orto PHM
Transmission: 5-speed, shaft final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle/57.7in (1,445mm)
Suspension: Telescopic forks front, dual shocks w/adjustable preload rear
Brakes: Dual 10in (260mm) discs front, 8in (200mm) SLS drum rear
Tires: 90/90 x 19in front, 110/90 x 18in rear
Weight (w/half-tank fuel): 486lb (220.4kg)
Seat height: 32in (813mm)
Fuel capacity/MPG: 6.3gal (24ltr)/40-45 (period test)
Price then/now: $3,990/$4,300-$9,500

rather than repaired, if the bike's appearance is to be maintained. But BMW's traditionally excellent standard of finish means that this unrestored R90S still looks remarkably good after 42,000 miles, with just the occasional minor blemish and a slight discoloration of the exhaust pipes.

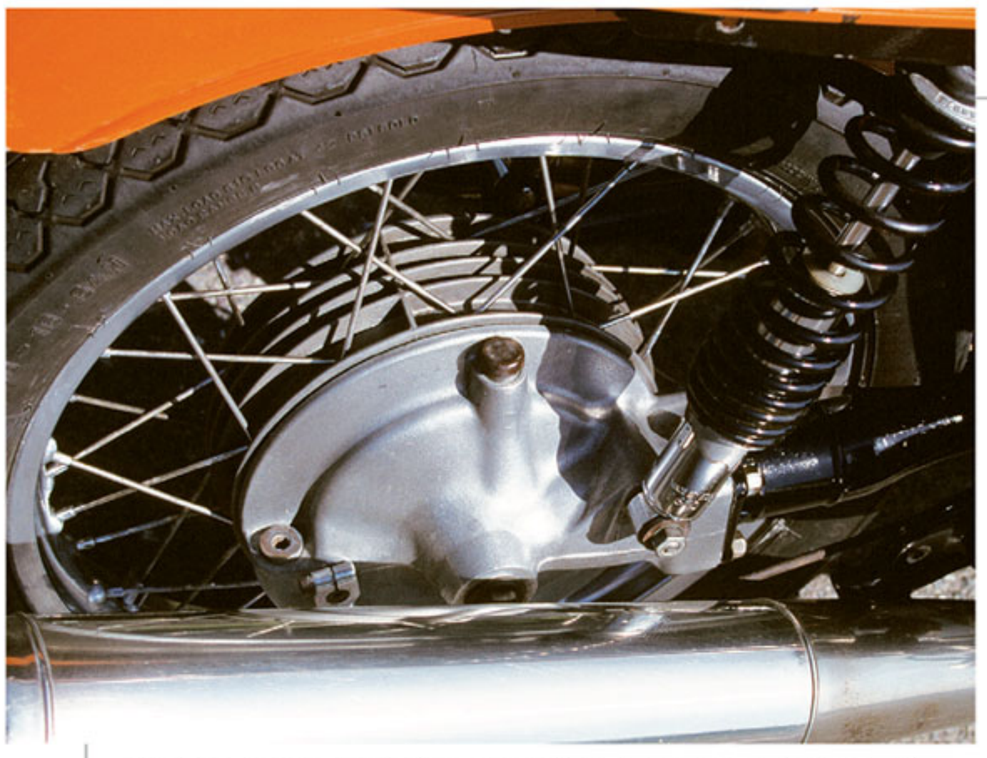
On the road it runs very well, too, after you've reached inside the fairing to the strangely placed ignition switch, then pressed the button to bring the boxer motor to life with its traditional side-to-side lurch. Despite its raised compression and big Dell'Ortos, the R90S was still as refined and well-behaved as any BMW.

Perhaps the most vivid sensation when riding the R90S now is just how similar the old bike feels to more recent boxers. The tuned S model has a little less low-rev torque than the R90/6 but is still very flexible, its docile power delivery and relaxed cruising ability feeling typically BMW. Even the sloppy gear change would be all too familiar to riders of relatively recent machines.

"More importantly, the R90S was — and still is — very capable of cruising at speeds well in excess of most countries' limits."

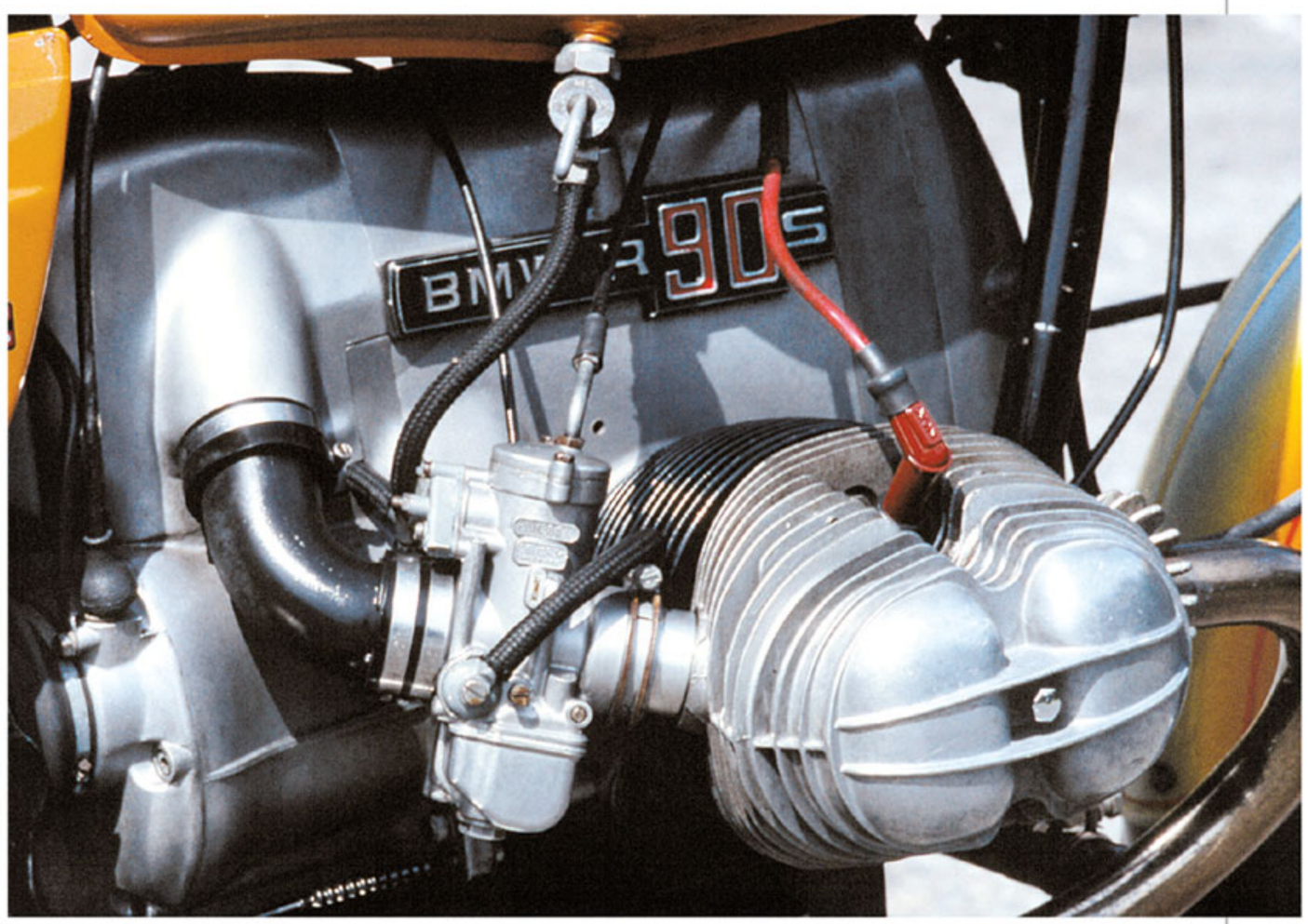
The R90S's top speed of slightly over 125mph was impressive by mid-Seventies standards, but perhaps more important was the unmatched ease with which the BMW could sustain an easy high-speed cruise, thanks to its engine's lack of annoying vibration and to the way the fairing diverted most of the wind from the rider. Aftermarket fairings were available that would do a similar job for other bikes, but no standard rival was as easy to ride fast as the Bavarian bahn stormer. When you examine the spec sheet it's no surprise that the elderly bike matches many of its more youthful descendants.

Far from being much more powerful, the R100 model that BMW produced almost two decades later, in the early Nineties, had a lower 60hp peak output. The manufacturer's official 0-62mph (100km/h) figure put the R90S and 1993-



Unlike many of the sportier Japanese bikes of the era, the R90S used a shaft final drive.

Almost tame by today's standards, the R90S was radical stuff when BMW introduced it in 1973 for the 1974 model year.



BMW's air-cooled twin has a legendary – and deserved – reputation for reliability and economy.

model R100s dead level at 4.8 seconds, and the old warrior more than matched the later boxer on top speed.

Inevitably, the elderly BMW's chassis has aged much less gracefully than its engine. The R90S shows its age particularly with its front brake, a combination of tiny calipers and drilled 260mm discs that require a firm squeeze of the lever to deliver much stopping power. This particular bike's setup may have been slightly below par, but braking has never been the R90S's strong point. Its original, solid 200mm rotors were quickly upgraded after a cool reception on the bike's launch. At least the rear drum gave some welcome extra bite.

Handling and road holding were excellent by the standards of the day, thanks to a conventional blend of steel twin-down tube frame, leading-axle forks and twin-shock rear end. This bike's spindly forks benefit from a brace, and its original shocks have long since been swapped for a pair of Konis. But the feel was much the same as ever: tall, stable, neutral, and fairly soft.

And if the elderly BMW feels a little wooden and unwieldy by modern standards, thanks partly to its narrow 19-inch front wheel, it's worth remembering that the R90S was produced before the Japanese manufacturers had managed to make their big bikes handle at all. There's none of the Kawasaki Z1's loose feel at the handlebars, for example, even at straight-line speeds over 100mph. In this respect, as in almost every other, the R90S has grown old very gracefully, indeed. Sure, its lack of a Paralever rear end means a certain amount of driveshaft reaction. Hard riding on bumpy surfaces finds the limits of the suspension, and under aggressive cornering on smooth roads this bike's Metzeler tires give more than enough grip to get the engine's cylinder heads scraping.

Reaching back

But the R90S matched its healthy power output with a respectable fueled-up weight of 474lb, which helped ensure that despite its shaft drive and gran turismo image there were few bikes that could stay with the BMW on the road. If proof were needed of the twin's sporting potential, Reg Pridmore's 1976 U.S. Superbike championship on a stock-looking boxer surely provided that. More importantly, the R90S was — and still is — very capable of cruising comfortably at speeds well in excess of most countries' limits. This bike was built long before most current grand prix riders were born, but the BMW belies its age with performance that hints at just how good it was when it first appeared back in the disco era. Reading old road tests gives an even better indication. Among the most telling contemporary comments was the review that stated: "The R90S handles and stops almost as well as the best Italian sportster; is almost as fast as the fastest Japanese road burner; almost as uncomplicated as the good old British twin; and almost as smooth as the best multi. When it comes to comfort, and capability for traveling at maximum speed with minimum fatigue, the R90S is second to none."

The tester concluded that while there were many bikes that did one thing superbly, the BMW was the only one that did everything very well. After riding the legendary R90S all these years later, that praise is easy to understand. MC

HEAVY METAL

1974 Kawasaki H1

Story by Margie Siegal
Photos Nick Cedar

Cue the music. Turn the petcock to the "prime" position, wait until the Plexiglas filters are full of gas, then back it to the "on" position. Turn the ignition on and engage the choke. Kick twice.

The triple cylinder 2-stroke fires and Van Halen's heavy metal band strikes up the staccato beat of "Hot for Teacher." Listen to the beat for a minute. The beast is easy to kick start, but it is cold blooded, and it takes a while before it is ready to roll from its den. Wait until the Kawasaki H1's exhaust note smoothes somewhat — although it won't smooth much. Now you're ready to rock and roll.

"In 1971 I was in high school and friends with a kid named Dennis Baxter," Bill Swagerty explains. "He got one for Christmas. It was radical. It was a 3-cylinder, 2-stroke fire breather with electronic ignition and a lopsided power-to-weight ratio."

Bill fondly remembers a trip to Lake Havasu, Ariz., with his friend. "He picked me up and we ran out there, but the bike seized up on the way. We walked to a store, got some 2-stroke oil, and it started up like nothing ever happened. That bike was so powerful that it wanted to fly, even two up. The front end came off the ground in third gear."

Beginnings of the H1

The Kawasaki H1 was introduced three years before, in late 1968. The Sixties were in full swing, and dizzying changes in art, music and politics were taking place. Motorcycles were changing, as well. The economical transporters of the Fifties had become sporting machines primarily ridden by young men. Speed sold, fuel economy didn't. Motorcycle manufacturers took note, and bikes blossomed out in chrome, with quarter-mile times prominently advertised.

The motorcycle market was changing quickly, and Kawasaki, eager to push its way to the top, had a 4-cylinder, 4-stroke engine under development when the company learned to its horror that Honda would upstage it with the impending 1969 Honda CB750 Four. Management decided to push back the introduction of the four and introduce something entirely different, something that would make a real splash. After experimenting with a 2-cylinder, rotary-valve 2-stroke engine, Kawasaki engineers found that a triple would produce more power with a lighter drivetrain.

A beastly concoction

To increase anticipation for its exotic 2-stroke, Kawasaki announced a list price of $1,000 — at a time when the list price of a Harley XLCH was $1,698. Officially named the H1, but often referred to as the Mach III, the 498cc, 415-pound speedster produced 60hp at 8,000rpm, would do a standing-start quarter mile in 12.8 seconds, and claimed a top speed of 125mph. This was big stuff.

All that power came at the expense of civilized riding. The mufflers were really racing expansion chambers, muffled just enough to meet the loose decibel requirements of the 1960s. The H1 would pop wheelies at the slightest

Small is good: H1's 498cc 2-stroke triple produced a claimed 60hp while a Triumph 750 barely broke 50hp.

Ignore their fearsome reputation; later H1s are actually quite civilized. Good looking, too.

provocation, sometimes in the middle of turns. Vibration was annoying, and the seat was uncomfortable, but the kids who bought H1s didn't care, and the H1 became immensely popular with the young men who formed the bulk of early Seventies riders — if not with their parents and the highway patrol.

Here was the ultimate bad boy, with blistering acceleration and looks to match. And it would stop, too. While much has been made of the Kawasaki's supposedly ineffective brakes, the fact is that by today's standards, just about all 1960s-era motorcycles had lousy stoppers.

In March 1970, *Cycle* magazine did a head-to-head comparison between Honda's CB750, a Harley-Davidson Sportster, a BSA Rocket 3, a Triumph Trident, a Suzuki 500 Titan, a Norton Commando and the Kawasaki triple. The Kawasaki was second only to the Honda, which claimed the best deceleration rate *Cycle* had ever tested.

After its introduction, Kawasaki tried hard to civilize its bad boy without destroying its essence as a street legal drag bike. Engineers burned a lot of midnight oil over the electronic ignition. The first version of the H1 was sparked by a CDI ignition that was complicated and had weak links. It was so bad that Kawasaki temporarily gave up on electronic ignition in 1972 and installed three sets of points instead.

The 1973 H1D returned to electronic ignition with a second generation CDI unit that was more reliable and gave a hotter spark at low and midrange engine rpm. As a result, Kawasaki could re-jet the triple Mikuni carburetors for a (somewhat) wider powerband.

Other changes over the years included making the huge induction ports smaller and changing their shape, decreasing fork rake, stiffening the frame (something it definitely needed) and beefing up the swingarm. Metal swingarm bushings replaced the previous plastic ones, and changes in weight distribution lessened the triple's tendency to pop unintended wheelies.

At the same time Kawasaki was trying to make the H1 acceptable in civilized society, the company was developing the 4-cylinder, 4-stroke engine it had temporarily shelved when the Honda 750 came out. The 900cc Z1 appeared in 1972, and it was everything the H1 wasn't. The handling was decent, the brakes actually stopped the bike, and the seat was comfortable for an all-day excursion.

When sales figures proved that customers would pay for a comfortable, safe and durable machine that sipped rather than gulped gas, the H1 was headed to oblivion. 1976 was the last year for the triple, hastened in its demise by impending environmental legislation paired with increasing market distaste for loud, smelly and smoky 2-strokes. Yet even in its last and most civilized incarnation, *Cycle World* summed up Kawasaki's triple in the words of the Steppenwolf song: "Evil, wicked, mean and nasty."

1974 KAWASAKI H1

Engine: 498cc air-cooled 2-stroke inline triple, 60mm x 59mm bore and stroke, 6.8:1 compression ratio, 60hp @ 7,500rpm (claimed)
Top speed: 114mph (period test)
Carburetion: Three 28mm Mikuni VMSC
Transmission: 5-speed, chain final drive
Electrics: 12v, CDI electronic ignition
Frame/wheelbase: Dual downtube steel cradle/55in (1,397mm)
Suspension: Telescopic forks front, dual shocks w/adjustable preload rear
Brakes: 10.7in (272mm) disc front, 7in (178mm) SLS drum rear
Tires: 3.25 x 19in front, 4 x 18in rear
Weight (wet): 415lb (188kg)
Seat height: 32.5in (825.5mm)
Fuel capacity/MPG: 4gal (15ltr)/23mpg (period test)
Price then/now: $1,195/$2,500-$6,000

"*Cycle World* summed up Kawasaki's triple in the words of the Steppenwolf song: 'Evil, wicked, mean and nasty.'"

H1's triple pipes draw the eye, but details like the rear seat cowling are nicely executed.

A midlife crisis

While Kawasaki may have stopped building 2-stroke triples, people with a need for speed continued to ride them. The Kawasaki H1 became a cult classic, consistently showing up in Most Significant Motorcycles of the postwar years and Ten Worst Bikes lists.

In 2002, Bill Swagerty had a self-described midlife crisis and decided he had to have a Kawasaki triple of his own. "I decided to turn back the clock," Bill recalls. He bought an H2, the 750 version, sight unseen from a Canadian eBay seller. Somehow the bike made it through customs, but it was a lemon. Bill shoved it to the back of the garage and started looking again.

Another triple turned up on eBay, and this one was only 50 miles from Bill's house. "I got there, and was amazed — the seller owned a warehouse filled wall-to-wall with bikes. This Kawasaki was set aside under a cover. He pulled the cover back and my heart jumped. It had less than 4,800 original miles on it.

"The good news was that everything was original," Bill continues. "The bad news was that everything was original, including all the dry-rotted rubber parts like the snorkel between the air filter and the carburetors. Purple Haze Racing out of Lakewood, Colo., came to my rescue. They import new rubber parts from Japan."

Since Bill's background is "in software, not hardware," he has had to locate knowledgeable mechanics. "I have worked hard on building a resource network. Parts can be had. The biggest challenge is finding service people within reach, qualified and willing to work on a 35-year-old bike. This is not a bike for the casual owner. You have to want it — and I want it."

Owning the H1

Since this bike is Bill's fair weather weekend toy, he hasn't had to do a lot of work aside from making sure the tank for the oil injectors is full ("I check it every time I go out," he says) and the battery is kept charged. Bill gets special smokeless 2-stroke oil from France, which minimizes the blue haze behind this notoriously smoky machine.

People who ride H1s the way owners rode them in the 1970s will likely have to rebuild the wet multiplate clutch on a regular basis. Although the clutch would be fine in a less performance-oriented bike, it starts to slip after too many enthusiastic stoplight takeoffs. "The H1 doesn't have a lot of torque off the line," Bill explains. "You have to keep the revs up. Once you are rolling, it rides well in traffic. The disc brake [introduced for the 1972 model year] works well. The suspension is relatively soft in the rear and the front suspension is moderately firm.

"The powerband is spectacular," he continues. "Turn the throttle, and it will go faster than you expected. In a straight line, it's raw performance."

Period testers were fascinated by

Owner Bill Swagerty aboard his very original 1974 H1 Mach III.

the off-kilter sound of the triple, and loved the blistering engine performance, but tiptoed gingerly around the handling. The 1973 revisions were hailed by testers as the cure to what ailed previous models. "Our test bike vibrated about half as much as the early Mach III that I last rode," wrote Frank Conner of *Cycle Guide* in April 1973. "The machine felt good in corners, and I could ride it with confidence."

Bill rides his somewhat cautiously. His boyhood friend was killed on his H1, and respecting the motorcycle has kept Bill out of trouble. "I tend to stay off the freeway on this bike," he says. "I know some stretches of windy road, and that's where I tend to go. I don't go into corners fast. I try to anticipate corners rather than react. I go into the corner slowly, and then throttle out. It's not easy to change lines once you are in a corner."

Although Bill truly loves his Kawasaki, he realizes it has limitations: "You just have to keep in mind that the H1 was notorious for its lack of handling. My mechanic took it out for a test ride. She was doing 80 on the freeway when she went into a high speed wobble. She's a good rider, though, and kept it up."

Economy is not the bike's strong suit. "The gas mileage is not great. I think I get around 20mpg," Bill says. "Although the seat is comfortable, it does vibrate. It's not a touring machine — it likes to be in the fast lane. It likes to settle in and cruise at 6,000 to 7,000rpm in all gears, and that's where I end up on secondary roads or freeways."

Instead of expecting it to be what it is not, Bill appreciates his triple for what it is. "The H1 excels at straight-line raw performance. It's not efficient, but it is exciting," he says. "What H1 triples have is sound. That throaty 'rat-tat-tat' is unique. They have style. The long tanks and the gleaming upswept pipes of the 1974 and 1975 triples have a timeless classic industrial design. And most of all, they have raw performance."

A raw performance Bill isn't likely to let go of anytime soon: "That machine was imprinted on me in my youth. It's a part of me." MC

PRESS REPORTS

"It goes like a good racing 500: it feels like a good racing 500. And, at full song, it even sounds like a racing bike, with a hard, sharp businesslike edge to the exhaust that evokes memories of Daytona and the Isle of Man. Handling, as I discovered by flicking it into the flat (instead of going up on the banking) at Yatabe, is not quite like a good racing motorcycle, but a change of shocks might take care of that and it wasn't bad just the way it was."

— *Cycle, April 1969*

"The Mach III, in spite of its racer-like tendencies, is far from being a beast. It starts easily, has terrific brakes, is extremely manageable in traffic, and forgives the rider if he lets the engine speed drop too low. One would never know that the 500 is a racer in disguise, were it not for the fact that the front wheel readily lifts into the air if the throttle is jerked on in the first three gears."

— *Cycle World, April 1969*

"It's a groove, it's a gas, it's out of sight, it's too much. When we received our test bike, we thought it was pretty much the same, only the color had been changed. Not so. We were wrong. The factory has made a number of changes, mostly good, and it's only by riding the motorcycle for awhile that these improvements make themselves known. Like the chassis, for instance. The 1970 Mach III feels a lot steadier than the '69 version did."

— *Cycle Guide, September 1970*

"When it was introduced, the Mach III amazed all with its blistering performance and engineering audacity. Now Kawasaki has begun the task of refining the design. As a result, the 1971 version will surprise buyers for those 'quieter' forms of amazement – reliability, consistency, and livability."

— *Cycle World, January 1971*

"Even if you took the trouble to keep the engine up on the pipe or down off the pipe all the way through a corner, you still couldn't be certain that the machine would hold the line you'd selected, because the frame and swingarm felt as if they had a few built-in hinges too many."

— *Cycle Guide, April 1973*

"The 1973 Mach III looks good and goes fast. The engine's powerband has been widened, making the bike suitable for street riding as well as drag-racing. The riding comfort has been improved, so that it is now about average for a 500cc street machine (it could stand more improvement). The handling has been greatly improved, so that it is now above average for a 500cc street machine."

— *Cycle Guide, April 1973*

PERFECTION

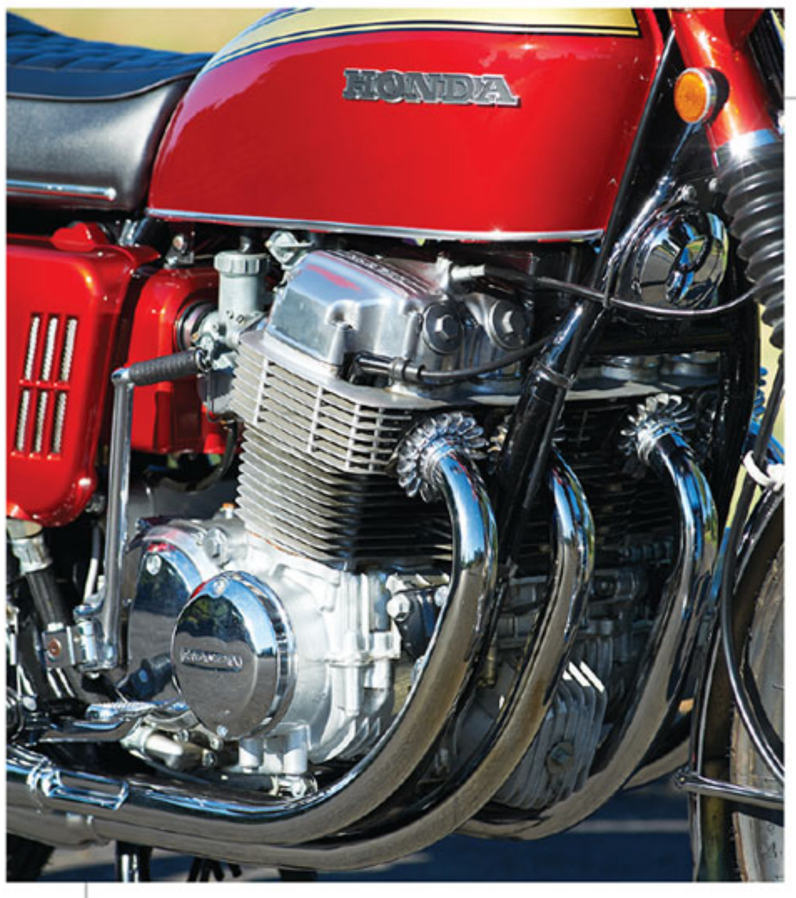
1970 Honda CB750 Four

Story by Margie Siegal
Photos by Nick Cedar

Don Stockett has had a lot to celebrate recently. He not only won an Antique Motorcycle Club of America (AMCA) Winner's Circle award for this 1970 Honda CB750 K0, scoring 99.50 points, he also managed a narrow escape from road rash on the same bike.

Some weeks before the AMCA Fort Sutter (California) National meet where he won his Winner's Circle award, Don rode the CB750 K0 in The Quail Motorcycle Gathering pre-show Quail Ride. During the ride, he went a little too hot into a decreasing radius left turn and barely avoided running the bike onto the gravel as the centerstand scraped the pavement. "It's a big, heavy bike and it's hard to correct in a corner," Don says.

Viewed from a perspective of 46 years of progress, the single overhead cam version of the 750 Honda is a nice bike with a lot going for it, yet one that could benefit from some focused upgrading. But viewed from the perspective of its contemporaries, the Honda CB750 Four was a revelation. Here was a powerful and reliable motorcycle with good brakes — for the time — a 5-speed transmission, bright lights and an electric starter that worked on cold mornings, none of which were common



1970 HONDA CB750 K0

Engine: 736cc air-cooled SOHC inline 4-cylinder, 61mm x 63mm bore and stroke, 9:1 compression ratio, 67hp @ 8,000rpm (claimed)
Top speed: 123mph (period test)
Carburetion: Four 28mm Keihin
Transmission: 5-speed, chain final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual-downtube steel cradle/57.3in (1,455.5mm)
Suspension: Telescopic forks front, dual shocks w/ adjustable preload rear
Brakes: Single 10in (254mm) disc front, 7.1in (178mm) SLS drum rear
Tires: 3.25 x 19in front, 4.0 x 18in rear
Weight: 499lb (w/half tank fuel)
Seat height: 31.5in (800mm)
Fuel capacity/MPG: 4.8gal (18.1ltr)/35-40mpg
Price then/now: $1,495/$4,000-$12,000 (1970 die-cast model)

motorcycle features when the CB750 hit the market in 1969. Just as importantly, the styling was good enough to turn heads, and unique enough to attract buyers.

Honda's strength

That Soichiro Honda, the founder of Honda Motor Company, was in the position that his company could design and build a bike like the CB750 was due to years of forethought and investment. In the early 1950s Mr. Honda, with the help of some optimistic banks, bought $1 million worth of American and Swiss machine tooling. Meanwhile, his British rivals soldiered on with the same old pre-war lathes and milling machines — they had to keep the shareholders happy, after all — and Harley-Davidson, then the sole surviving American motorcycle company, had bought up as much surplus equipment as it could after World War II, but years of poor sales had limited its ability to keep up in the factory machinery department.

By 1959, Honda was the largest motorcycle manufacturer in

the world. It had based its success on selling small motorcycles of excellent quality to Asian customers, but it soon branched out. As the 1960s progressed, Honda sold increasingly larger capacity motorcycles worldwide. Honda products swamped the British manufacturers' small bike offerings, and although the Japanese imports cost more, they had good brakes, bright lights and electric starters. And they didn't leak oil.

The 750 Four debuts

In 1967, rumors began to circulate that Honda was building a 750. Many people thought it would be a twin, like the popular British motorcycles of the time, but when a prototype was exhibited at the Tokyo Motor Show in October 1968, the powerplant turned out to be an inline 4-cylinder. Observers thought the bike owed a lot to Honda's 500cc GP race bike. Like the racer, the new four had its cylinders transverse to the frame. But where the racer had double overhead camshafts, the street four had a single overhead cam. Painted Candy Blue Green, the new model stirred up international interest and would-be customers jammed Honda dealers' phone lines, only to be told they didn't have any 750s and didn't know when they would. An unknown journalist dubbed the new machine a Superbike — the first recorded use of the term.

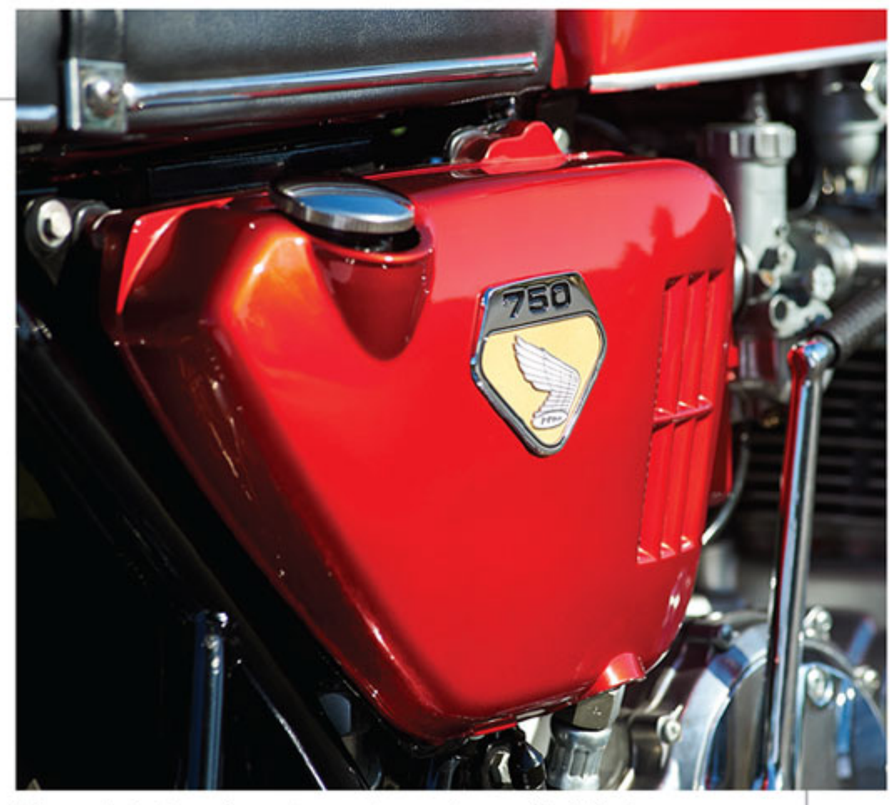
American dealers, customers and motorcycle magazines impatiently waited for the new four, which finally arrived on these shores in June 1969. The motorcycle that was imported to the U.S. had one important upgrade from the prototype — a front disc brake. It also had chrome exhausts and a more streamlined tank, although the steering damper fitted to the prototype had been deleted.

Cycle magazine published one of the first full road reports, noting that the electric starter was reliable, the clutch action light and the bike liked to rev, courtesy of four small cylinders and a light flywheel. Vibration was zero, and testers were surprised by mirrors that were viewable at highway speed. High-speed handling was good, helped along by the Dunlop tires, but the rear brake had a tendency to lock up and the bike's weight had to be taken into consideration when cornering.

Honda's state-of-the-art tooling enabled the factory to economically produce an engine with a reliable one-piece forged crankshaft, a chain-driven overhead camshaft, a compact 5-speed transmission, and a pressure-fed oiling system. The heads were designed in a sophisticated in-house research facility and Honda's design team had a computer to assist in number crunching. All this technology allowed Honda to take the 750 from concept to prototype in a very short period. By some accounts, the 750 took less than a year to develop.

As introduced, the Honda K0 was remarkably bug-free, but a few items needed to be worked out, including an overenthusiastic chain oiling system that left puddles on the asphalt. Getting the bike up on the centerstand took too much effort, and the clutch was a bit grabby. In general, however, testers were more than pleased.

The one thing that Honda had not taken into consideration was the potential demand for the new four. The first CB750 engine cases and cylinder heads were gravity cast in sand forms. This was a slow method of production, and after the first few months the factory switched to high-pressure die casting. Don Stockett, owner of Vintage Motorcycle Rescue (vintagemotorcyclerescue.com) and a vintage Honda expert, explains that only the first 7,414 engine cases — engine numbers to CB750E-10007414 — were produced by the gravity sand cast method, and the rest of the 54,000 1969-1970 CB750s were die cast. A period report mentioned that the Honda factory was working to get component assembly time down to two minutes. In comparison, Harley-Davidson's entire output of FLHs in 1969 was 7,300 motorcycles.



The 4-into-4 exhaust system (left) is a defining visual feature of the CB750.

CB750. It is a testimony to the high standard Honda set that it took Kawasaki until 1973 to introduce the Z1 — a faster, better handling 4-cylinder bike. Yamaha and Suzuki eventually came out with their own 4-cylinder models, similar enough to the Honda to give rise to the term Universal Japanese Motorcycle.

Honda continued to build the single overhead cam version of the CB750 until 1978, and then moved to a double overhead cam version for the 1979 model year. The later Hondas were more refined and comfortable, while the earlier bikes had better lap times. The earlier instruments had plastic housings, which were prone to cracking, while the later ones had metal cases. One major improvement, introduced in 1971, was in carburetor control. The original 1-into-4 throttle cable system made it difficult to keep the carburetors in tune, since the four cables stretched at different rates. The next generation dual push/pull throttle cable system, with a stronger, improved carburetor plate and an improved linkage, helped to keep the carbs synchronized and simplified tuning.

Good, but heavy

In its March 1970 issue, *Cycle* magazine ran a shootout between seven top-of-the-line motorcycles. The Honda CB750 was included of course, and got high praise for its excellent (for the time) front disc brake, its strong acceleration and its ability to turn fast laps on the racetrack, but low marks for its weight — 480 pounds with oil but no gas.

Most owners regarded the 750 as a fast tourer, and the reliability of the four became a major selling point. However, drive chain wear was a problem early on, the cause pinpointed to misaligned sprockets and the low quality of generally available period drive chains. Unfortunately, if the drive chain broke, it could break the engine case, and Honda often replaced cases under warranty. In many states, however, the DMV refused to let dealers stamp replacement cases with the original engine number. This is the reason why there are many early 750s with sand-cast cylinders and unnumbered, die-cast cases. Don Stockett has found engine case chain protectors retrofitted to many early machines.

The new Honda caused tidal waves through the motorcycle market. Kawasaki was developing its own big 4-stroke engine when the Honda four appeared, but the project was shelved until Kawasaki could come up with a major improvement on the

Don's CB750

The first-year sandcast CB750s have been collectible for some time. More recently, larger numbers of people have realized how classic most early Hondas are. This is good news for Don Stockett, who retired a few years back, and with motorcycle expert Geoff Sprague, opened Vintage Motorcycle Rescue, a restoration facility dedicated to 1960s and 1970s Hondas. In between working on customer projects, he has snuck in a few of his own. This 1970 Honda CB750 K0 is one of Don's projects, and one he is very proud of. "The Honda 750 was a watershed bike, with numerous improvements to motorcycle design and features. This bike has had such tremendous influence on motorcycle design, and it is still influencing design today," Don says.

Don decided to find and restore an early CB750, and looked at a lot of possible bikes. After his experience evaluating what he found for sale, he has some advice for other enthusiasts who want their own Honda CB750. "If you are looking for a Honda 750 to restore, you will often find bikes for sale with aftermarket fairings. This is good news. The fairing shields the instruments and the top of the tank from sun fade. Also, people who put fairings on their bikes are usually tourers, and people who go touring park their bike in a garage. They also tend to take very good care of

The CB750's front disc brake got a lot of attention when it debuted, as drum brakes were then the norm.

their bike. On the downside, touring bikes are usually high mileage," Don says.

The bike he finally ended up with, an early die-cast machine, was an eBay find in Tennessee. The seller advertised the bike as restored. "The engine was rebuilt, and it was done well, with a hotter cam," Don says. "However, he used incorrect bolts elsewhere and left parts out. For example, he left out a rear axle spacer. He re-spoked the wheels, but didn't bother to rebuild the brakes. The bike wasn't safe to ride. When I got it, it was leaking oil and would die if I let off the throttle. It had been repainted, but not the right Honda Ruby Red color.

"There is now a considerable premium paid to obtain one of the early sandcast CB750s," Don says. "The 1969-1970-produced models are identical and are commonly referred to as K0 models. 'K' stands for kaizen, the Japanese word for 'improvement' and '0' for the first version." Don is obsessive about details — you have to be obsessive about details to properly restore motorcycles. He made sure all the screws and bolts were correct, and that all the missing parts were replaced. The brakes were rebuilt and the bike was painted the correct shade of Candy Ruby Red. Not content to own a trailer queen, Don wanted his 750 to run as well as it looked. "This is a fast bike," Don says. "We have raced this bike against a low mileage, stock bike we have, and it was quite a bit faster." In 2013 the bike won first place in the Superbike Class at The Quail.

Once a single overhead cam Honda 750 is set up properly, basic maintenance consists of religiously changing the oil. Don suggests changing the engine oil every 1,000 miles. "The engine will do over 100,000 miles without a rebuild. Just change the oil often," he says. Don also suggests using iridium spark plugs, which are more expensive, but will last for years, and replacing the headlight with a much brighter H4 LED light for safety.

Any 46-year-old bike has its limitations and Don is well aware of his 750's. "It's a great bike in a straight line. At the time, they thought the brakes were great, which shows how bad the drum brakes on all bikes of the time were. Careful attention also needs to be paid to the battery. The charging system is just adequate to keep the battery charged. It won't run the lights and recharge the battery. If you ride the bike with a very low battery, the alternator will funnel full charge to the battery and eventually burn out the alternator. Keep your battery on a trickle charger to keep it fully charged for riding," Don says.

"It's got a wide seat and large side covers, so it feels bulky, but solid. It's also hard to correct the line in corners, especially if you go in with too much speed. But the seat is very comfortable, and it doesn't vibrate. It's a good freeway bike, and with a fairing it's almost as good as a Gold Wing. Just keep in mind that it is not a sport bike, so be careful and ride conservatively. The 750 will require your attention at all times. It has incredibly beautiful classic styling that everyone recognizes. It sounds wonderful, particularly with the early HM300 mufflers. I never get tired of hearing the sound out of those pipes." MC

GARAGE QUEEN

Larry Orlick's 1976 Triumph Tiger 750

Story by Margie Siegal
Photos by Nick Cedar

Larry Orlick is best known in his local motorcycle circle as a Ducati fanatic, since he at one point cornered the market on single-cylinder 450 Ducatis. In actuality, he has owned a lot of different makes. "I've owned a lot of Brit bikes," Larry says. "I owned two 500 Triumphs, two Bonnevilles and a few BSAs. In fact, I previously owned a 1975 Triumph Tiger. It was a good-looking, fast bike. I sold it so I could buy a BMW, quit my job and go touring around the U.S. and Central America."

Larry was on the road for a year and a half, and when he got back he found a job and got married. Some years went by. He still had the BMW, and while he claims he wasn't looking for another bike, "In a moment of weakness, I succumbed," he says. The object of affection? Another Triumph Tiger, a bike he refers to as his Garage Queen.

Tiger travails

By some measures, Larry is lucky that Triumph survived long enough to build his bike. By the early 1970s Triumph was almost dead, bloodied by an astoundingly clueless management and a widening cultural divide between American and English motorcyclists. But it hadn't always been that way.

As the Fifties dawned, Triumph recognized that bigger, faster bikes had greater appeal in the American market. In 1949, Triumph introduced the 650 Thunderbird vertical twin. A faster version, the T110, was introduced in 1954. A beefed-up bottom end supported higher compression and a larger carburetor, and a new swingarm frame improved handling. Although Triumph boss Ed Turner was

TRIUMPH
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adverse to racing, both American dealer and customer demand led Triumph to build production racers like the T100C, TR5/R and T100RS, all based on Triumph's smaller 500cc vertical twin.

Triumphs quickly became a mainstay in road racing, flat track racing and desert racing. Triumph racing stars included Buddy Elmore, Chuck Joyner, Eddie Mulder, Ed Kretz, Jr. and the one and only Gary Nixon.

In 1959 Triumph hit a home run with the 650cc twin-carb T120 Bonneville. Prior to the T120, all Triumph 650s used a single carburetor, although a splayed twin-port head became available in early 1958 as a dealer-installed option. The T120 was an updated version of the T110 with the splayed port head installed by the factory, a one-piece forged crankshaft and a higher compression ratio.

Yet there continued to be an enthusiast market for the single-carb 650 twin, so Triumph continued to offer the 650 in single-carb tune, marketing various models under the TR6 designation, including the TR6R Tiger. Although a little down on horsepower, it was smooth and easier to tune and remained a solid offering in Triumph's U.S. lineup throughout the Sixties.

1976 TRIUMPH TR7RV TIGER

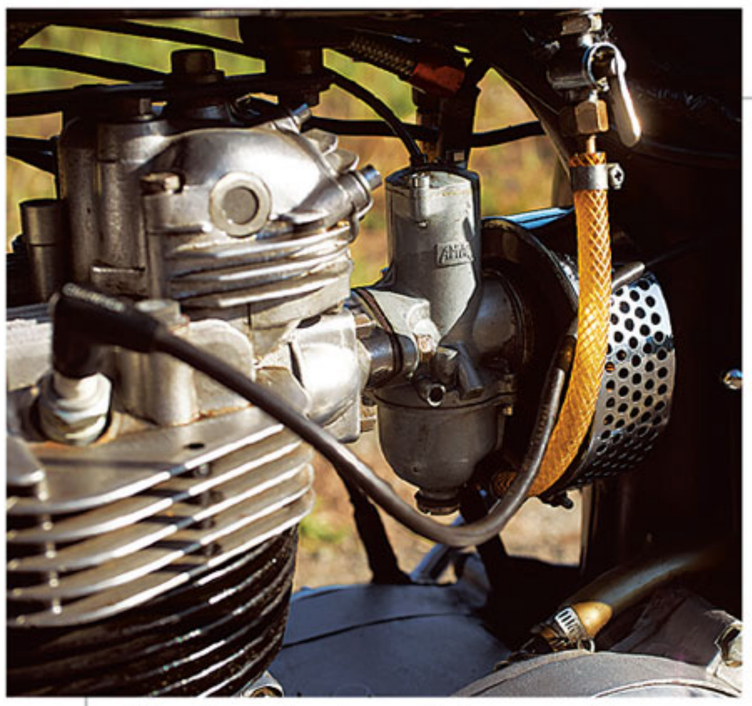
Engine: 744cc air-cooled OHV parallel twin, 76mm x 82mm bore and stroke, 8.6:1 compression ratio, 47hp @ 6,700rpm (claimed)
Top speed: 112mph (period test)
Carburetion: Single R930/89 Amal Concentric
Transmission: 5-speed, chain final drive
Frame/wheelbase: Dual-downtube steel cradle, oil in frame/55in (1,397mm)
Suspension: Telescopic forks front, dual shock absorbers w/adjustable preload rear
Brakes: 10in (254mm) disc front and rear
Electrics: 12v, coil and breaker points ignition
Tires: 4.10 x 19in front, 4.10 x 18in rear
Weight (w/half tank fuel): 425lb (193kg)
Seat height: 31.7in (805mm)
Fuel capacity/MPG: 3.5gal (13.2ltr)/40-50mpg
Price then/now: $1,795 (approx.)/ $6,000-$10,000

Turning points

In 1970, BSA-Triumph's research and development unit at Umberslade Hall took over design and engineering — and pushed Triumph off a cliff. The "Umberslade" frame, which used the frame as the oil reservoir, appeared in 1971. There were multiple problems with the frame, setting back production for months. When it was finally introduced, riders complained of its seat height, 4 inches higher than the old frame. Reckless spending and unrealistic sales predictions caused the closing of Umberslade Hall in 1972 and the failure of BSA, Triumph's sister brand.

The Meriden factory re-redesigned the Triumph twin in 1972. A new frame lowered the saddle height and the ungainly 1971 tank was replaced with a sleeker and prettier one. In 1973, a cylinder bore increase took displacement to 750cc, compression was lowered to 8.25:1 and the primary chain was upgraded from a single-row to a three-row. The rocker boxes were redesigned to leak less oil and a 5-speed gearbox became standard. Now identified as the TR7RV, the single-carb Tiger continued on.

Cycle tested the Tiger 750 and liked what they rode. The disc brake was described as "one of motorcy-



Single carb doesn't hurt performance and means easier tuning (left), and the left foot shift (middle) is more familiar for riders.

cling's best," and although the suspension was stiff, it contributed to "handling you can bet your life on." Top speed was about equal to the Bonneville, and *Cycle* was actually able to get a slightly better quarter-mile time out of their Tiger than *Cycle World* did from their same year Bonneville; 13.51 seconds for the Tiger versus 13.65 seconds for the Bonneville.

Despite best efforts on the part of the Meriden factory, Triumph's parent corporation continued to bleed red ink. The British government, hoping to salvage what was left of its motorcycle industry, engineered a merger between Norton Villiers, headed by Dennis Poore, and Triumph. Poore planned to close the Meriden factory and move Triumph to BSA's old Birmingham plant. In response, in 1973 the Meriden workers barricaded the doors and stopped work. The British government threw up its hands and refused further assistance, but did help with the transfer of Meriden to a worker's collective.

Bonnevilles and Tigers didn't return to production until late 1975. Per U.S. DOT regulations, Triumphs now shifted on the left and braked on the right, but the old vertical twin still leaked oil and vibrated. The Meriden co-op knew its products needed upgrading, yet with no money for new machinery and tooling they were limited in the developments they could undertake. The co-op soldiered on and the single-carb Tiger stayed in production alongside the dual-carb Bonneville through to the end of production at Meriden. Despite heroic efforts, the co-op failed in 1983.

There's no mistaking the Tiger's classic profile — it's a Triumph through and through, and possibly a better riding proposition than earlier models thanks to better brakes, a bigger engine and a 5-speed transmission.

New owners

Although the Triumph brand was eventually relaunched by businessman John Bloor, original "Meriden" Triumphs maintained their value for many. Brit bike faithful all over the world continued to champion their 180-degree vertical twins even though some, like Larry Orlick, strayed from the fold, but eventually returned.

A year and a half ago, Larry, not having had a British bike for years, was feeling a slight lack in his life. Despite repeated announcements that he was not in the market and was perfectly happy with his BMW, he would still idly look at Craigslist from time to time for another Triumph, but it had to be a Tiger. And then one day there it was. "I wanted a 5-speed Tiger, the single-carb model; disc brake front and rear, left shift, and I was looking right at it. Not only that, it was priced reasonably," Larry says.

He bought it, and shortly thereafter, Larry wrote to a friend that he had "some upgrades to do (tires), a few minor electrical gremlins, directionals to put back on, some fluids to change (in the forks) and some minor carburetor adjustments to sort, but her bones are very good." The glitches were sorted out in a few weeks, and Larry's Garage Queen was on the road. "It's my pleasant evening bike. My longest ride on it was 170 miles. It's fun, nimble, and handles well. It's a back-road bike."

The Garage Queen is not stock. "I have all the stock parts, but they don't look as nice." The side covers on the bike are old-style, one-piece covers. The stock side covers for 1976 are two-piece. Larry says the Tiger logo vibrates off the stock covers or cracks. The mufflers are close to the stock items, but are actually an aftermarket replacement for Nortons. "They don't leak, and don't interfere with the kick-starter."

Triumphs, and especially single-carb Triumphs, have always had a reputation for easy starting, and this Tiger is no exception. However, like other Sixties and Seventies British motorcycles, you have to free up the clutch by pulling in the hand lever and kicking through several times until there is no resistance.

"You tickle the carb, break the clutch, kick twice slowly with the ignition off, turn on the key and kick. It lights right up, hot or cold, and idles nicely," Larry says.

> "You tickle the carb, break the clutch, kick twice slowly with the ignition off, turn the key and kick. It lights right up, hot or cold, and idles nicely."

For Larry, maintaining the Tiger includes keeping it presentable, shining up all the chrome and the paint. "I use auto polish, like Meguiars," Larry explains. "It's a mild polish, with no abrasives. The paint is good."

Mechanicals haven't been much of an issue. "The tach and speedo do work and so does the electrical system," Larry says. "I can turn the ignition off and the lights will still remain on. One time I ran down the battery — operator error — but it was easy to bump start the bike. The lights are adequate enough for night riding."

Based on his prior Triumph experience, Larry suggests changing the oil every 1,500-2,000 miles. He also mixes 20-percent full synthetic oil for engine longevity. Ignition

In a world increasingly filled with sophisticated multi-cylinder engines, Triumph's classic vertical twin was considered dated in 1976.

points get replaced "when it needs it — about 2,000-3,000 miles." Cleaning the points and adjusting them to specification on a regular basis keeps the bike running at its best.

The single Amal carb has not had to be adjusted since Larry bought the bike: He raised the idle a little and left it alone after that.

The slow-speed handling is very good. "It's a very torquey motor. It may be geared a little taller than stock, with one tooth larger on the countershaft. It is light and nimble on tight roads. In fact, it is easier to ride on tight roads than my 650 Honda dual sport. The brakes are fine — I can skid both tires, but don't make a habit of doing that. In general, I ride this bike pretty conservatively," Larry says.

The mirrors are, he admits, "a little buzzy — there is a slight vibration you can feel. At higher highway speeds, it gets increasingly buzzy. At 60 to 65, it's perfectly fine." Larry has put only 1,800 miles on this bike so far.

"I don't do long days on this bike," he says, adding, "but the vibration is OK for its era. I am used to Brit bikes and their foibles. My Garage Queen makes me feel good. It is something I have wanted for a long time, and I wasn't even looking for it!" **MC**

Owner Larry Orlick has subtly modified his Tiger to his own tastes, including old-style, one-piece sidecovers and mufflers meant for a Norton Commando.

DEFINING THE FORMAT

1971 Moto Guzzi Ambassador

Story and photos by Doug Mitchel

When Moto Guzzi introduced its first production motorcycle in 1921 it was powered by a horizontally mounted, 498cc overhead valve single cylinder. It was a format that defined Moto Guzzi engines for decades to come, but in 1966 the Italian company announced a new 700cc V-twin, introducing a new format that continues to define Moto Guzzi today.

The Ambassador story goes back to the early 1960s, when Moto Guzzi first started to work out a V-twin for the Italian police. When brothers Joe and Mike Berliner of Berliner Motor Corporation in New Jersey (the importers for Ducati and Moto Guzzi, among other European brands) got wind of the new V-twin they immediately pushed Moto Guzzi to put it into production. The first model, the 704cc V7, went into production in early 1967. Cracking the nut of devout Harley-Davidson riders was a challenge in the early days, and while the new V7 might not have drawn loyal Harley fans, it did provide other motorcycle enthusiasts with a more exotic option.

Following closely on the heels of the V7, the larger capacity Ambassador V750 was introduced in 1969. It embodied several traits of its predecessor, and new features added to the bike's U.S. appeal. And helping to augment sales, numerous speed records were gained with the new Moto Guzzi machines. In June of 1969, Remo Venturi took his Guzzi to a production class speed record as he hit 145mph on the fabled Monza circuit. A few months later, in October, Guzzi riders broke the 1,000-kilometer and 6-hour records, turning in average speeds of 125.5mph and 125.3mph, respectively.

Time to go touring

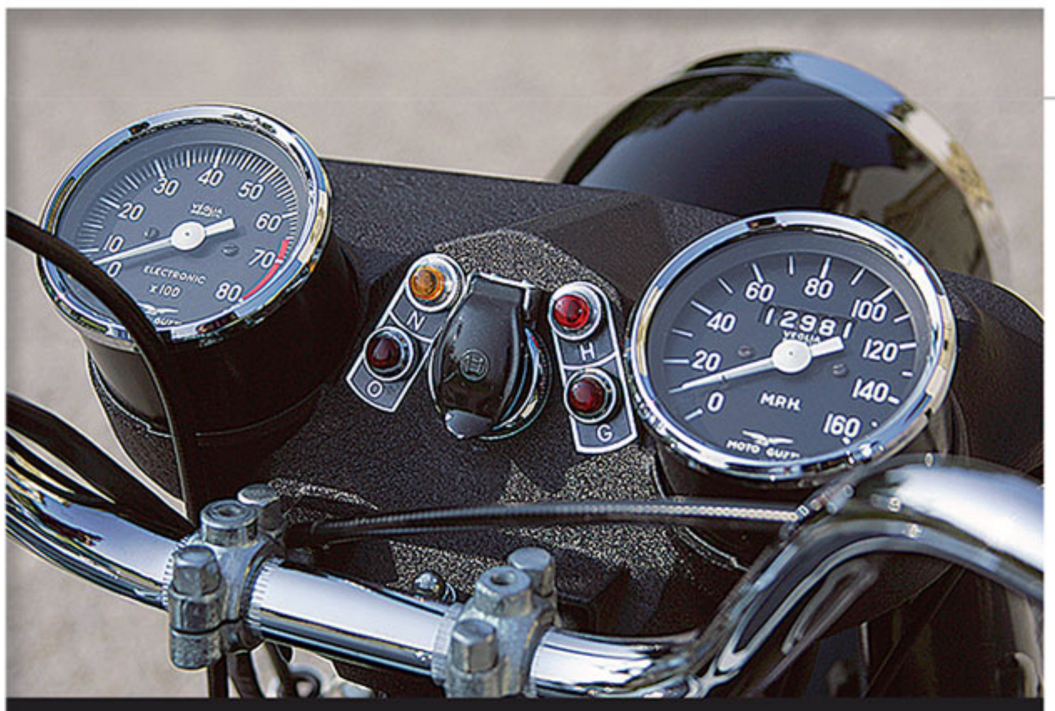
The U.S. motorcycling press liked the new Ambassador, helping to propel sales of the marque to a production record of just more than 46,400 units in 1971. That's especially impressive considering that Honda released its legendary CB750 Four in 1969. Yet the Guzzi was a very different machine from the Honda, with a different rider in mind. Designed as a long-distance touring model, the Ambassador was the first-ever production motorcycle to feature electric starting only, with no kick lever even offered. A touring machine typically featured better seating, plus handlebars that reached back to the rider instead of requiring the rider to reach forward, creature comforts for extended hours or days in the saddle. The Ambassador had all of those traits, making it a terrific machine for the open road.

To satisfy the demands of long range riders, the Ambassador carried nearly 6 gallons of fuel in its enormous tank, a significant increase from the V7's 4.5 gallons. Beneath the fuel tank, the 90-degree V-twin now displaced 757.5cc and produced

a claimed 60 horsepower, a considerable bump over the 50 horsepower V7. A pair of 29mm Dell'Orto carburetors fed the overhead valve engine, with shifting through a 4-speed gearbox.

Physically larger than most of its European competition, the Ambassador's long, 57.5-inch wheelbase brought a new level of stability on the highways. It was also heavy; with a full tank of fuel the Ambassador tipped the scales at nearly 575 pounds. The well-shaped and padded saddle sat 32 inches off the tarmac, providing a comfortable stance for the rider at rest or in motion. The seat was also bi-level, placing the passenger a few inches higher than the rider, and a stout pair of hand rails flanking the rear of the two-up seat gave the passenger plenty of purchase during spirited rides.

Equipped with a driveshaft instead of the more normal chain, the Ambassador was a smooth riding machine. But like its contemporary BMW competition, the torque of the shaft could make itself felt, particularly when accelerating or slowing down while turning as the bike dropped upon deceleration and rose upon acceleration. That didn't seem to turn off would-be owners, as the Ambassador wasn't perceived as an outright performance machine. Yet with a top speed just more than 100mph, the Ambassador was no slouch, either. In a 1971 *Cycle World* test the Ambassador turned in a 0-60mph time of 6.7 seconds and covered the quarter-mile in 14.94 seconds, only two seconds



1971 MOTO GUZZI AMBASSADOR

Engine: 757.5cc air-cooled OHV 90-degree V-twin, 83mm x 70mm bore and stroke, 9:1 compression ratio, 60hp @ 6,500rpm (claimed)
Top speed: 100mph (period test)
Carburetion: Two 29mm Dell'Orto PHF32
Transmission: 4-speed, shaft final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle/57.5in (1,460.5mm)
Suspension: Telescopic forks front, dual shocks w/adjustable preload rear
Brakes: 8.7in (220mm) TLS drum front, 8.7in (220mm) SLS drum rear
Tires: 4 x 18in front and rear
Weight (w/half tank fuel): 559lb (254kg)
Seat height: 32in (813mm)
Fuel capacity/MPG: 5.84gal (22ltr)/40-50mpg
Price then/now: $1,694/$3,000-$9,000

slower than the contemporary Honda CB750. More importantly, it could hold a sustained 80mph for hours on end, making it the perfect machine for the wide open spaces of the U.S.

Looking good

While the styling of the Ambassador was conservative, it was decidedly European. The big V-twin engine was its obvious calling card, but thanks to the engine's transverse orientation nobody mistook a Guzzi for a Harley. The sides of the copious fuel tank wore chrome panels, and angular side cover panels contrasted with the smooth contours of the fuel tank, but without looking out of place. Horizontal louvers in the front half of each cover allowed air to flow through them, and a lockable storage compartment behind each side cover provided space for tools and maybe a pair of gloves, but not much else. The lightly valanced front fender added another dose of style and helped to keep the rider somewhat protected from spray off the tire during inclement conditions.

New for the 1971 model was a separate speedometer and tachometer to better keep the rider abreast of his or her progress. Previous machines had a speedometer only, mounted in a large polished aluminum housing that capped the upper triple clamp. The new instruments were mounted in a black textured housing with a distinctive crinkled finish. Buyers had the choice of three different hues for the V750, with red, black or white being offered, each accented with stripes to offset the base color.

The Ambassador was a competent cycle, and what it may have lacked in outright performance or trend setting design was more than made up by its unique Italian flare. But its 1971 MSRP of $1,694 was nearly identical to its biggest rival, Honda's CB750 Four, which delivered more of nearly everything for the price. Popular as the Guzzi was, the Honda's performance-to-dollar ratio made it the obvious choice for many buyers.

Guzzi knew it couldn't beat Honda at its game, so for 1972 the Ambassador was replaced by the 850cc Eldorado. Although power only went up slightly, from 60 horsepower to 64, the new Eldorado now had a 5-speed gearbox, a definite step forward. A front disc brake finally came on the 1974 Eldorado, but by then Moto Guzzi's big touring twin was getting decidedly long in the tooth. It continued to sell well in its last year, but its best days were behind it and in 1975 Moto Guzzi replaced the Ambassador/Eldorado platform with the new Tonti-framed 850-T.

Riding one now

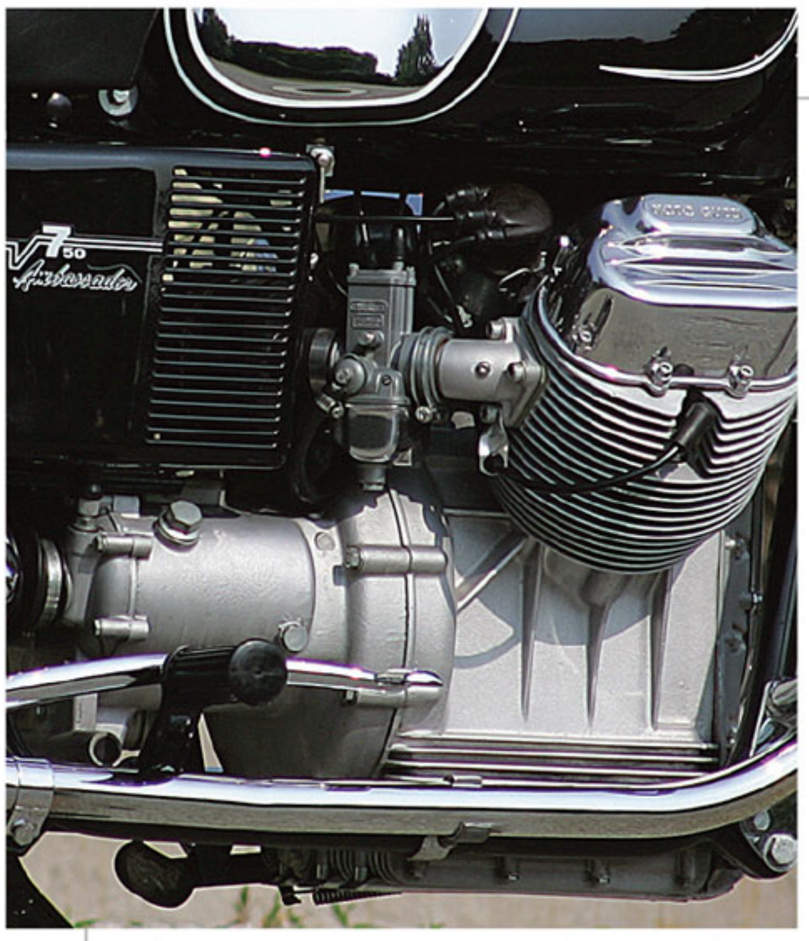
Mike Parenti, the owner of the perfect 1971 Ambassador featured here, had very little motorcycle experience prior to acquiring this bike, but he did have the good fortune of spending his formative years in Italy when his dad, a first-generation Italian-American, took a position there with Amoco. Mike lived there from the age of 5 until just before high school, and while he didn't get into motorcycles at the time (the family did have a little 50cc Piaggio Ciao moped, stolen the year it was supposed to become Mike's) the Italian aesthetic made a big impression on him.

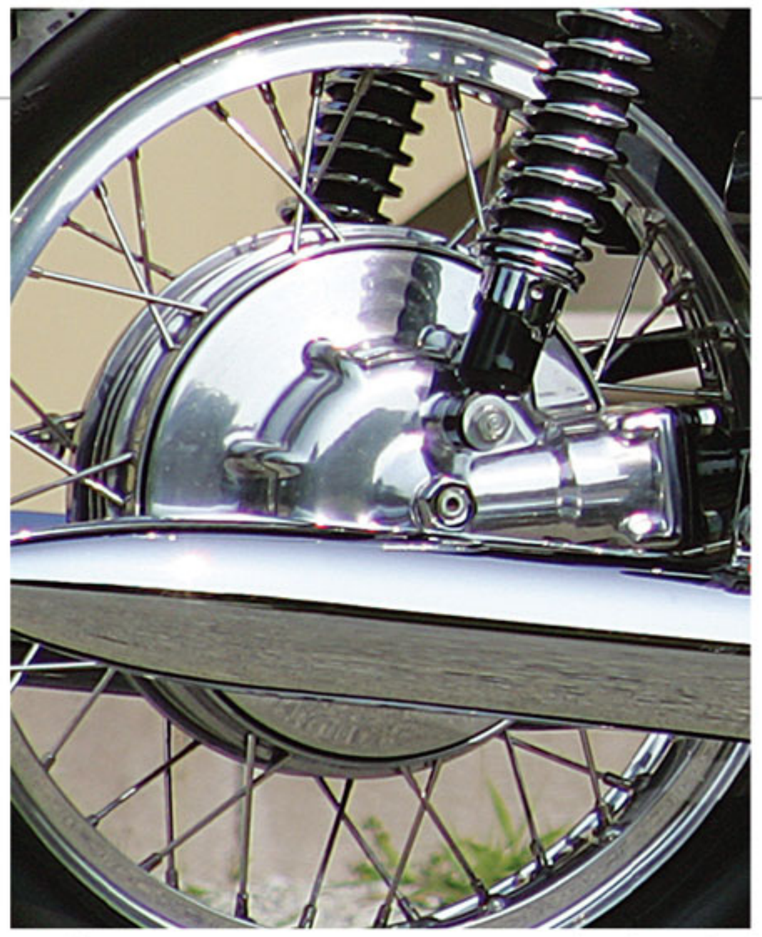
Back in the states, Mike had a few opportunities to ride and managed to get in a little offroad time, but he didn't really pursue the idea of buying a street bike until much later. In 2000, he got a call from a pal who was restoring a 1948 Moto Guzzi GTW 500cc single, and that led to Mike (thanks to his mastery of the Italian language) making a trip to Italy to look for GTW parts at the huge *mostra scambio* (swap meet) outside Milan. Mike found the requested bits, and back home in Chicago at his friend Dave Jackson's, he was sitting on a bike in the shop when Dave suggested Mike needed an old Moto Guzzi like the GTW. Mike liked the idea, but said he'd want something newer, something two people could ride on. That something was the bike he was sitting on, a rundown 1971 Moto Guzzi Ambassador.

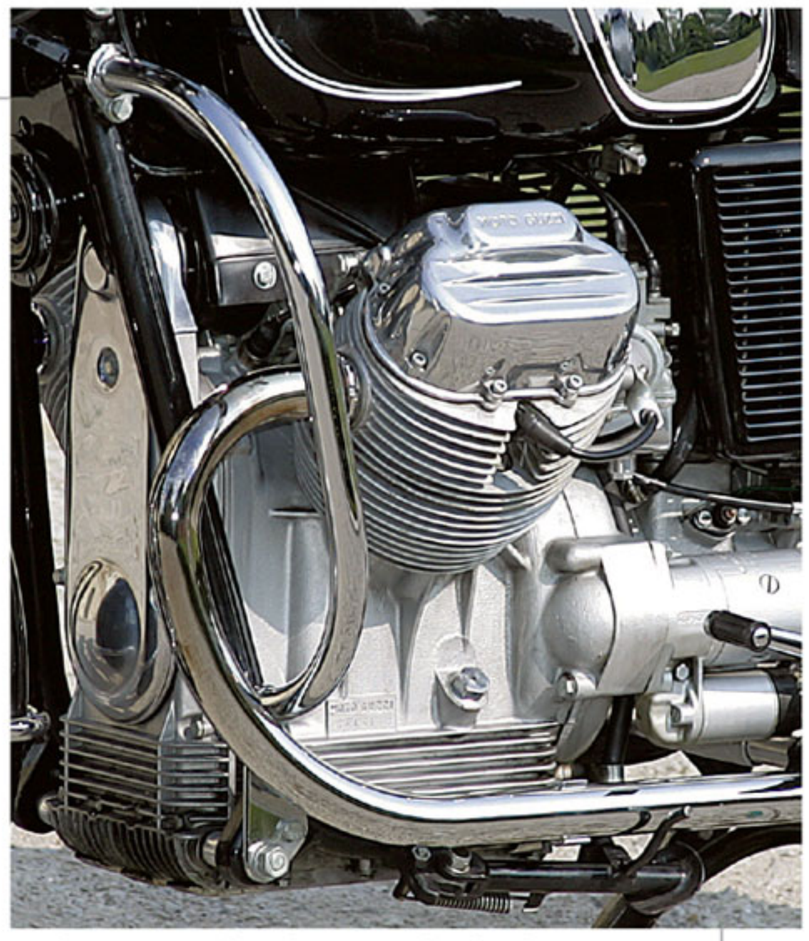
> "Since the restoration, Mike's put 13,000 miles on the Ambassador."

That Ambassador, it turned out, was the first Moto Guzzi that Dave, now something of a marque expert, had bought. That was in 2001, and by August 2003 Dave had finished the Ambassador's restoration. "The goal was to have it ready by spring to take to the Moto Guzzi Owners Club annual rally, but Dave works at his own schedule so I had to be patient," Mike says. The finished result was clearly worth the wait, and Mike says that of the many things he likes about the Ambassador, he's impressed how many people think it's a late-model replica of some kind, a testimony to Dave's restoration skills.

Since the restoration, Mike's put 13,000 miles on the Ambassador, and the only issue he's had since firing it up that first time more than 10 years ago is a loose valve and a stripped exhaust nut. "I was headed up to Road America," Mike remembers, "and I got the bike out, it's idling, and I look down and see this chrome thing vibrating. I went to a place in Milwaukee where they had to rethread the head. I've had to reset the valves,







The 757.5cc V-twin produces a claimed 60 horsepower at 6,500rpm, which is fed to the rear wheel via a shaft drive.

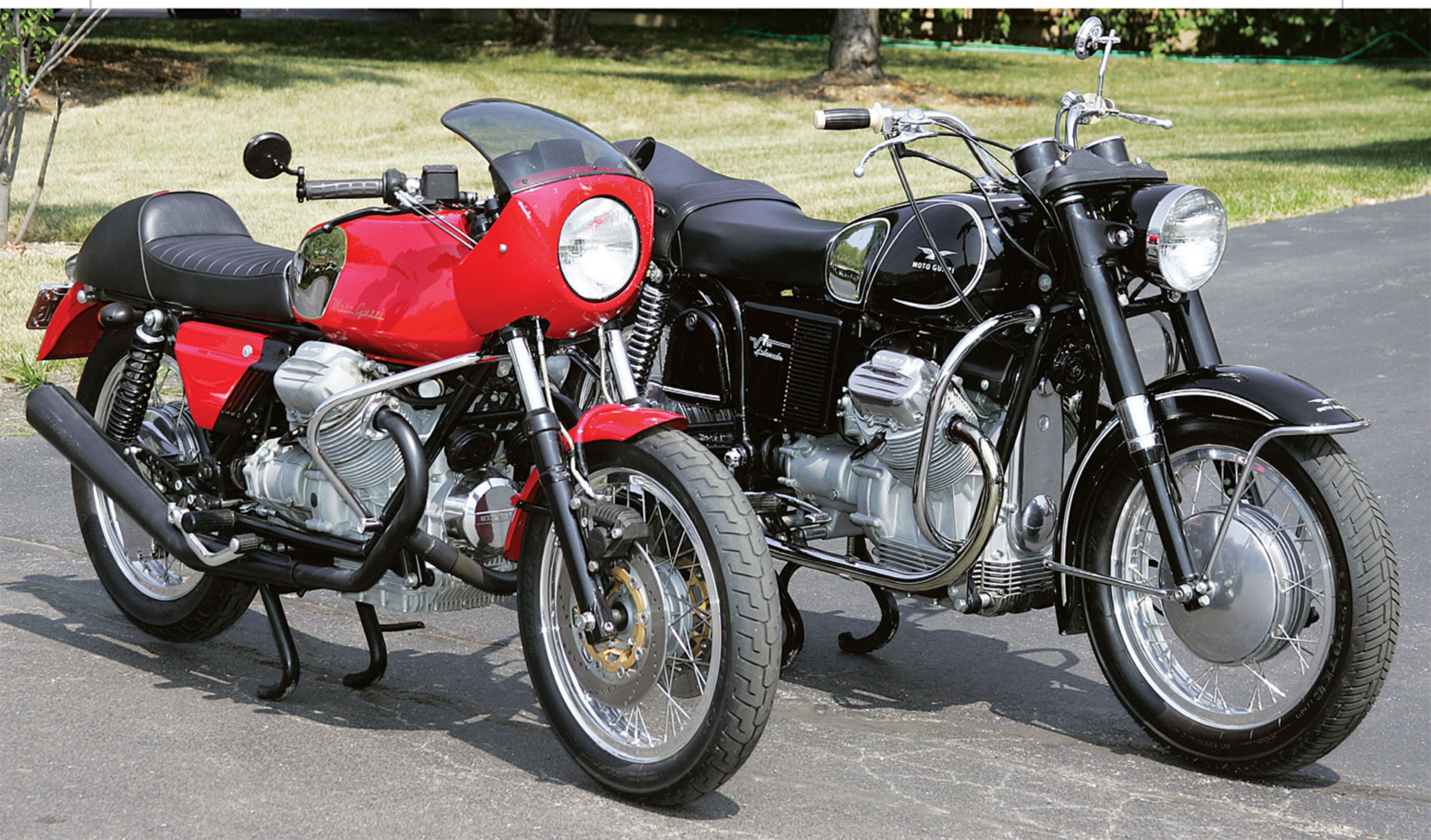
but other than that, I haven't had to do anything, and it doesn't drip a drop of oil."

Mike liked the Ambassador so much he bought another Moto Guzzi, a 1975 850T, which he acquired after convincing a buddy to have Dave build him a café racer. That bike, also an 850T, came out so well Mike just had to get one himself. "When he finished it, my jaw just dropped, and I thought, I've got to get one." Mike found his 850T in Grand Rapids, Michigan, then started buying parts, lots of them from Italy. He started in earnest in the fall of 2011 and finished the bike in 2012, with Dave taking care of the engine.

"I ride them equally," Mike says of his Guzzis. "They both have their fun aspects; they're like women, there are things you love and hate about each of them." Mike says the Ambassador is a super stable bike you "can ride without your hands on the bars. It's rock solid. I'm more comfortable on it than just about any motorcycle. You have to compensate for the drum brakes, but I feel very comfortable on it. And of course a lot of people look at it. People think it's new, a replica, it's so clean. I try to keep it that way. There are a lot of aluminum parts and you have to stay up on those, keeping fresh wax on them."

So are there anymore Moto Guzzis in Mike's future? "A buddy of mine found a guy in Italy who has a 750S, a V7 Sport and some military singles with sidecars, and I'm contemplating going over there and trying to pry one or two of those out of this guy. I'm thinking about going over next year," Mike says.

Moto Guzzi is still making motorcycles, and like every manufacturer they're applying the latest technology to their newest machines. Yet regardless of technology, the machines coming out of Guzzi's famous factory on the shores of Lake Como in Mandello del Lario, Italy, are still powered by the classic V-twin configuration first laid down in the V7 and the Ambassador, a trait that makes the machines instantly recognizable and true Moto Guzzis. **MC**



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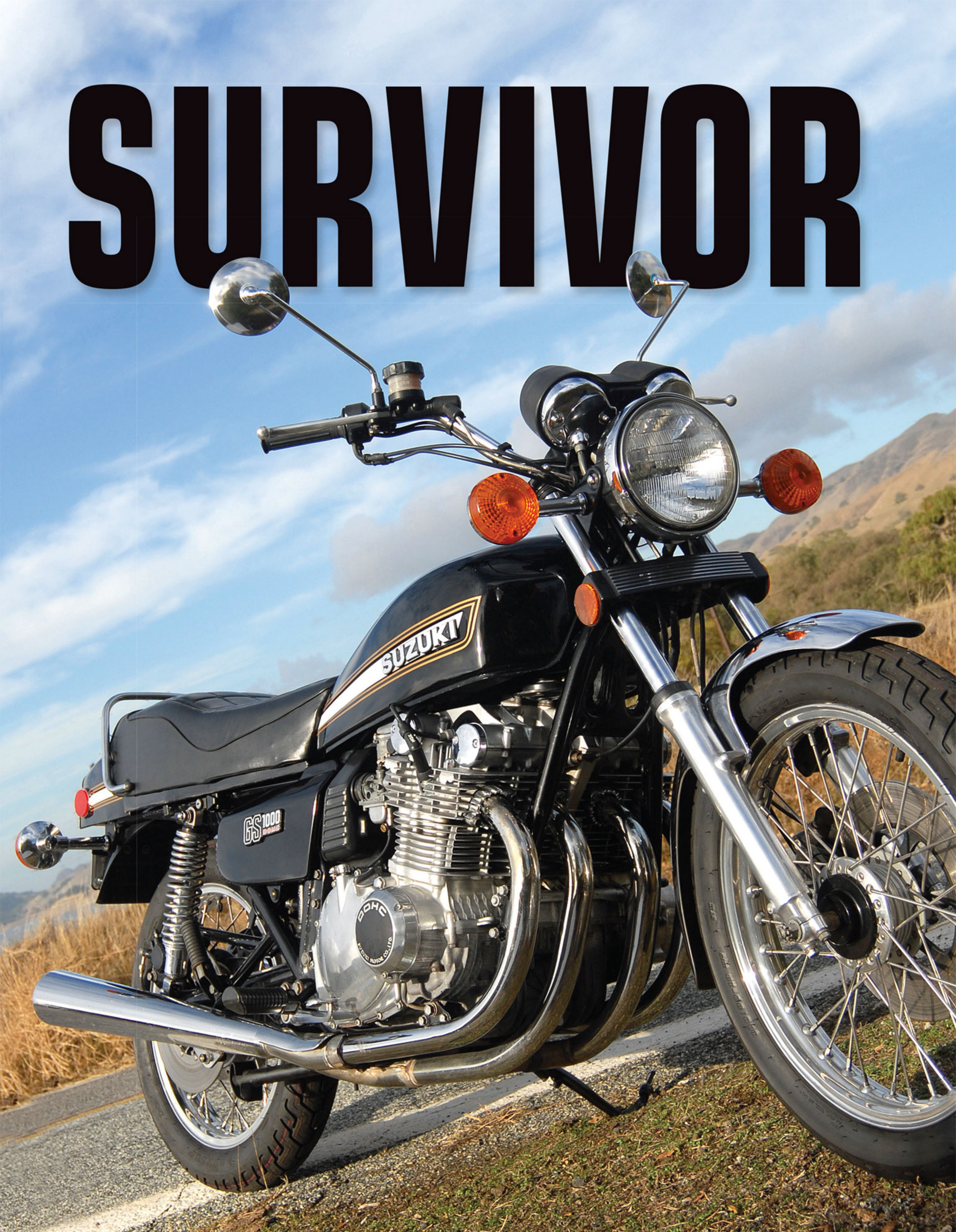

1978 Suzuki GS1000

Story by Margie Siegal
Photos by Nick Cedar

Launched in 1976, Suzuki's GS line of 4-cylinder, 4-stroke bikes have often been hailed as the first Japanese motorcycles that actually handled well. Tom Murphy was introduced to a GS on the back roads of Japan and he's never owned anything but.

Owner Tom Murphy aboard his first-year Suzuki GS1000.

"I bought my first GS model — a GS750 — when I was stationed in Japan," Tom says, "and I've been hooked on GSs ever since. I toured Mt. Fuji on that bike. The countryside was beautiful, and the roads and I got along fine. The only problem was the speed limit was 40kph — about 30mph — and I got a very hefty speeding ticket."

When his term of service in Japan was over, Tom was transferred back to the U.S., but he had to sell his Japanese-spec GS before he left. Once settled in the U.S., he immediately purchased another GS750, but it was stolen shortly after he bought it. He reluctantly gave up motorcycling to raise a family.

The years rolled by, and about the time Tom's daughter went to college, gas prices had really started to rise. "I mentioned to my wife that commuting by motorcycle would save a lot of money," Tom explains. "She surprised me — she said yes. I didn't have to argue or anything!"

Not believing his good luck, Tom immediately started searching and found a 1980 GS1100. This bike is still his daily ride. "I was afraid it would be too big for me, but it rode and felt as good as the 750s I remembered." It was also the start of Tom's GS collection, which is beginning to fill the garage.

Suzuki's past

The GS was Suzuki's first large 4-stroke, and it was in many ways a typical Suzuki: a dependable bike with excellent riding manners. Since the start of motorcycle production in the early Fifties, Suzuki always emphasized engineering. The factory built sturdy, reliable motorcycles during its first three decades, but a string of Grand Prix and offroad victories during the same time period proved that reliable did not necessarily mean slow.

Suzuki's first large road-going twin, a 500, appeared in 1967. Like previous Suzukis, it was a 2-stroke, very reliable, but not particularly stylish. It was followed in 1971 by the water-cooled GT750 2-stroke triple. This popular machine, which soon gained the nickname of "Water Buffalo" in the United States and "Kettle" in England, was powerful, reliable and a good daily rider.

At this point, Suzuki decided to try a very expensive experiment. The development of the rotary engine ignited huge excitement among manufacturers around the world, and Suzuki decided to license the technology for Wankel rotary engines, resulting in the 500cc rotary-engined RE5.

> "Suzuki decided to build a bike that was not only fast and reliable, but one that also handled well."

Unveiled in 1974 to great fanfare, it was a flop. It looked strange, and the engine characteristics — lots of rpms, lots of heat and a weird exhaust note — took some getting used to. It didn't help that it guzzled gasoline at a time when fuel was becoming increasingly expensive, and used up expensive spark plugs ($31.75 today!) at an astounding rate. In late 1976, Suzuki stopped production of the RE5 and ate its losses, which were in the tens of millions.

Before Suzuki ended the RE5 experiment, the company realized it needed a backup plan. Thanks to market pressures and encroaching environmental concerns, 2-strokes, up until then Suzuki's mainstay, were heading the way of the dinosaur. The logical choice was to build a 4-stroke, but the challenge was building one that would stand out in an increasingly competitive market. Suzuki decided to build a bike that was not only fast and reliable, but one that also handled well, like the bikes built by its European competitors.

GS beginnings

The Suzuki engineers went to work, and came up with the GS750, which first appeared in public view in October 1976. It was a well-built, reliable motorcycle, capable of comfortable, fast back road touring. Although its styling

1978 SUZUKI GS1000

Engine: 997.4cc air-cooled DOHC inline four, 70mm x 64.8mm bore and stroke, 9.2:1 compression ratio, 74.5hp @ 8,000rpm (claimed)
Top speed: 135mph (period test)
Carburetion: Four 26mm Mikuni VM26
Transmission: 5-speed, chain final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle/59.3in (1,506mm)
Suspension: Air-assisted telescopic forks front, dual Kayaba shocks w/adjustable damping rear
Brakes: Single 11.8in (300mm) disc front and rear
Tires: 3.25 x 19in front, 4 x 18in rear
Weight (dry): 550lb (250kg)
Seat height: 32.7in (831mm)
Fuel capacity/MPG: 5.1gal (19.3ltr)/45-50mpg
Price then/now: $2,749/$1,500-$4,000

wasn't particularly exciting, its solid performance made it a big seller and it revived the company's fortunes at a very difficult time.

Building on the 750's success, the GS1000 appeared in late 1977. The combination of air-assisted front forks, a stiff chassis and adjustable dual Kayaba rear shocks made for an above-average ride around the tightest of twisties, despite a longish 59.3-inch wheelbase. By comparison, a same year Moto Guzzi 850 stretched 58 inches.

Contemporary journalists praised the GS's comfortable seat, excellent power delivery and handling, and its good brakes. Suzuki clearly had racing in mind when it designed the GS1000, which migrated to the track shortly after it was introduced.

The best fit for the liter-size bike in mid-Seventies racing was the new Superbike class, and a young racer named Wes Cooley turned both Superbike racing and the GS1000 into major attractions. Wes popped wheelies, smoked tires and flamboyantly won races aboard a GS tuned by the legendary "Pops" Yoshimura.

With the benefit of success, Suzuki started building offshoots of the GS line, including a shaft-driven version that sold well to touring-oriented riders, especially in Europe. Profits from the GS probably enabled Suzuki to climb out of the hole it had dug itself into with the RE5. As testimony to the engine's solid design, the GS series soldiered on until 1986, gaining oil then liquid cooling along the way before finally being phased out.

> "As testimony to the engine's solid design, the GS series soldiered on until 1986."

Tom's '78

Tom found the bike featured here on Craigslist. "It was not only good looking, but also restorable," Tom remembers. "Most of the original equipment was there. There was a custom seat, and custom headers on the bike, but the owner had saved the original pipes. He had put British emblems on it and braided steel brake lines."

One attraction to this find was its low serial number. "It was one of the first GS1000s Suzuki made, built December 1977," Tom says. "I bought the bike and started going to work."

Tom was also working on a customized hot rod GS1000 at the same time, and once he found a stock seat, the cus-

From the Beginning

The first Suzuki offering was in 1952, a 36cc clip-on engine for bicycles. A success when it was introduced, later models quickly gained cubic capacity. The first complete Suzuki motorcycle appeared in 1954 under the brand name Colleda.

The 1950s were a good but challenging time to start manufacturing motorcycles in Japan. Competition was fierce, and by the end of the Fifties, there were only 18 survivors of the over 100 motorcycle manufacturers and assemblers that had begun. By the early Seventies, there were only four, and Suzuki was one of them.

Enjoying the growing moped market in Japan, Africa and Southeast Asia, the company started building bigger motorcycles. The first 250 twin was introduced in 1956. When Suzuki started exporting to Europe and the United States in the early Sixties, most of its exports were mopeds and 100cc road bikes, but the company soon began building competitive offroad bikes. With Roger DeCoster as its champion, Suzuki won World Motocross championships in 1971 and 1973, and again in 1975-1976. The factory's involvement in international road racing brought additional good publicity. Barry Sheene started racing for Suzuki on the Grand Prix circuit in the early 1970s and won the World Championship for the factory in 1976 and 1977. The GS1000 became a winning racebike as well, as Yoshimura-tuned GS1000s were entered in five AMA Superbike races in 1978, and led all five and won three.

The GS engine

The foundation of the GS line was an air-cooled, double-overhead-cam, 4-cylinder, 4-stroke engine (ignoring, of course, the little 450 twins). Thanks to a roller bearing crankshaft on the larger capacity bikes, and to the extra strength designed into the bottom end of the entire model line, they quickly gained a deserved reputation for reliability, and became a favorite with the drag racing crowd. In fact, very little revision had to be done to the basic design in order to support the enlargement of the 750cc engine, (first to 997cc in late 1977 and then to 1,100cc in 1980) or the four-valve-per-cylinder update, available on some models starting in 1980 and designated TSCC (Twin Swirl Combustion Chamber). The GS1000 was created from the original 750 by lengthening the stroke to 64.8mm. The bore stayed the same at 70mm. The overhead cams are run by a chain in the center of the engine and kept taut with an automatic cam chain tensioner. Ignition timing was by points until Suzuki went to electronic ignition in 1980.

tom seat went on the hot rod. The exhaust was a problem, but then Tom found a set of stock pipes and mufflers on eBay. "They were beautiful — and I paid premium," he says. The resulting empty pockets were only temporary, as Tom turned around and sold all the extra parts, enabling him to make back a lot of his outlay. At this point, the only non-stock parts on this GS are the braided steel brake lines.

Although Tom prizes his GSs, he admits they have a few quirks. The valves need occasional adjusting, which is done with shims that aren't always available from the local dealer, but they are available by mail order with a little searching. Synching the four carburetors is a bit of a chore, but once done right, Tom says, they stay synched.

Tom adds that his GS1000 is cold blooded, and takes a

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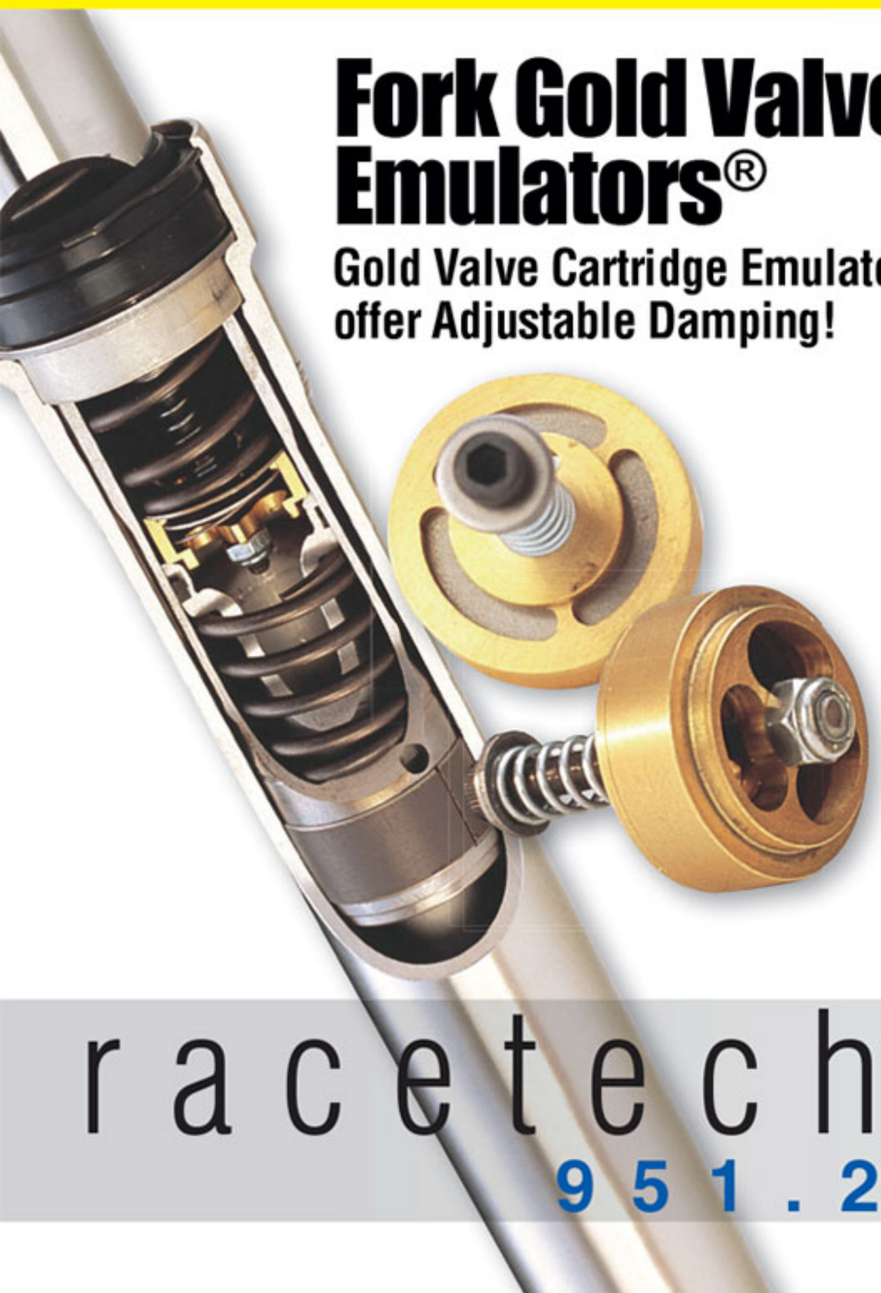

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ITALIAN MADE

The Iconic Ducati 750 Sport

Story by Greg Williams Photos by Jeff Barger

Back in the late Seventies, Wisconsinite Jim Fitzgerald wasn't content to just follow his motorcycling compatriots. Even as a youngster messing around on a dirt bike, while the rest of his friends were aboard Honda Super 90s, Jim's ride was a modified 1948 Harley-Davidson Hummer.

In high school, he rode a run-of-the-mill spray-bombed purple 1971 Honda CB350 — simply because it was what he could afford. After graduating and serving his tool and die apprenticeship, though, he started making better money. And while his friends were buying Suzuki GS1000s and Honda CB900Fs, Jim wanted something different, like an Italian-made Moto Guzzi LeMans. Until he saw a 1978 Ducati Darmah, that is. The Duc caught Jim's fancy, so he bought the Darmah. That was in 1979.

Going racing

Soon after, Jim realized his riding skills were above average, so he bought and prepped a 350cc Ducati single, racing it in Western-Eastern Racing Association (WERA) lightweight superbike events. In 1981, Jim's younger brother, Rick, who rode a BSA 650 on the street, became interested in going racing.

At one of their breakfast rides, an acquaintance pulled up on a Ducati 750 Sport, the very machine featured here. Everyone admired the Italian motorcycle, but Rick showed particular interest in the Ducati, and the owner said he could have right of first refusal if the bike were ever sold. A year later, Rick bought the Ducati for $1,500.

"Rick bought it from Paul Egner, and the story is that Paul bought the bike from a neighbor of his just down the road," Jim says. "The original owner didn't like the riding position, and he didn't ride it much. It was very original when my brother got it."

"Almost immediately after buying the Ducati, Rick decided to take it racing."

Almost immediately after buying the Ducati, Rick decided to take it racing. He made a few modifications, including swapping the stock Scarab front brake caliper and rotor for a dual-disc Lockheed setup. Ditto the original Conti exhaust system, replaced by a two-into-one header. A set of 36mm Dell'Orto carburetors replaced the stock 32mm units, and an electronic ignition system replaced the stock breaker points. "Everything he took off he stored properly," Jim says, "Rick was meticulous about that."

The brothers went racing, Jim on his 350 Ducati and Rick aboard the 750 Sport, competing at tracks like Road America in Wisconsin and Blackhawk Farms in Illinois. Weeknights, the brothers would work together, prepping their bikes for the next weekend of racing.

Rick was competitive on the 750 Sport, until a 1984 race at Road America. When Rick didn't come back around the front straight, Jim thought he must have crashed. Rick had pulled off, and when Jim got to him Rick said the rear rod was knocking. They got the Ducati back to the pit, started it — and shut it down immediately, an ominous sound emanating from the rear of the engine. "Rick took the bike home and pulled the motor," Jim recalls. "After we opened it up, we could see where the rear piston had been tapping the head. The valves and head were still fine, but I told him the crank would need to be rebuilt."

Moving on

Instead of investing money in the 750 Sport, Rick bought a 1981 Ducati 900SS. He rolled the 750 Sport into his basement, where it was pickled and stored away. It was one of those projects he was always going to get to, but when Rick took a job as a police officer in Missouri, the 750 Sport went to Glen Bishop's Thoroughbred Cycles in Troy, Wis., where it sat untouched in storage.

Meanwhile, Jim hung up his leathers and focused on raising his family, and getting his manufacturing business up and running. He still had his 1978 Ducati Darmah, however, and in 2005 he completely restored the motorcycle. Reconnecting with the mechanics of that machine brought Jim back to his Ducati days, and the resulting restoration is something he is very proud of.

Jim had been watching eBay for Ducati parts, and he'd witnessed a couple of Ducati 750 Sports sell for relatively large sums. Over the years, the brothers had often talked about the possibility of Jim restoring the 750 Sport, and in 2008 Rick sold the project to Jim. "Rick knew it was worth some money, but he just wasn't in a position to restore it," Jim says. "He knew I was capable of restoring the 750." When Jim went to collect the Sport, he found a dusty rolling chassis and several cardboard boxes of parts, each one neatly labeled and the pieces organized within.

Sport history

Jim's Ducati 750 Sport was first registered in the U.S. as a 1974 model. It was, he would later discover, actually a 1973 model, the second year of production for the 750 Sport, a machine that evolved from a long history of legendary Ducati engineering.

From the end of WWII until the 1960s, Ducati became famous for producing small bore, single-cylinder motorcycles, including the Scrambler and Mach 1 models. But by the end of the 1960s, the market was hungry for larger-displacement, multi-cylinder machinery. BSA and Triumph launched their Rocket 3 and Trident triple-cylinder motorcycles in 1968, and Honda introduced its four-cylinder CB750 in 1969. Ducati needed something larger than a 450cc single to remain competitive.

Ducati's maestro, the famous Fabio Taglioni, or "Dr. T" as he came to be known, drew plans for a new 750cc V-twin with bevel-gear-driven overhead cams. A wide, 90-degree angle between cylinders provided perfect primary balance, and gave the engine its distinctive "L" appearance; the front cylinder is 10 degrees above horizontal, while the rear cylinder is in a near-vertical plane. The engine is a stressed member in the steel tube frame.

The new engine and chassis debuted at the 1971 Olympia motorcycle show in London as the GT750. Soon after, Taglioni modified a batch of GT750 engines with desmodromic valve operation. In April 1972, a pair of these desmo-equipped 750cc Ducatis ridden by Paul Smart and Bruno Spaggiari took first and second place, respectively, in a 200-mile race at Italy's Imola race track. Ducati's sweep in the Formula 750 class brought the machines to the world's attention, and demand for non-desmo 750cc Ducatis quickly outpaced supply. Somehow, even during this rush for production, Ducati developed the 750 Sport from the GT750.

According to Ian Falloon's *The Ducati 750 Bible*, the first 750 Sport appeared in Italy in September 1972. Very few — Falloon estimates perhaps 50 — 750 Sports were constructed in 1972. Many components were shared between the GT and Sport. The engine in the Sport was similar to the GT, with the exception of a few minor changes, including a folding, curved

kickstart lever with a longer kickstart shaft, plus larger, 32mm open carbs. Higher compression pistons gave the Sport a five horsepower edge over the GT.

The main differences between the two were the body components. A longer and narrower fuel tank, bum-stop rear seat cowl, clip-on handlebars and rearset foot controls gave the 750 Sport its boy racer nature.

Added to the 750cc line in 1973 was the now-legendary Ducati 750 Super Sport, featuring desmodromic valve actuation with two sets of cam lobes and rockers — one to push the valves open and another to pull them shut. The system, used by Mercedes-Benz in the 300SLR racer in the 1950s, was designed to avoid valve float and valve spring failure, and has been around since the early years of the 20th century.

Dr. Desmo

Early versions of the 750 Sport feature fiberglass fuel tanks, but Jim's 1973 machine was fitted from the factory with a steel unit. The rear seat cowl is molded in fiberglass. When Jim started restoring his 750 Sport he enlisted the help of John Lumley of Chicago. John is a Ducati specialist, and in the late 1960s and early 1970s he was a dealer for Berliner Imports, operating MCR East in the Chicago area. Now, John is known simply as Dr. Desmo. "John was around when these motorcycles were (first) uncrated in the U.S.," Jim says.

With John's help, Jim was determined to make his 750 Sport restoration as faithful as possible to how it would have rolled out of the showroom when brand new in early 1974 — right down to every bearing in the engine and transmission. Jim split the engine and delivered the crank, rods, heads and cylinders to John. The crank was rebuilt and the heads were treated to new guides and valves, while the cylinders got new-old-stock (NOS) sleeves and pistons. By the fall of 2008, Jim was reassembling the engine.

Distinctive to the early 750 Sports and Super Sports are the black engine side covers, and Jim was able to match the black paint from a NOS cover supplied by John. Also painted were the frame, fork lowers and triple tree. To get the distinctive yellow/orange color Ducati used on the 750 Sport, Jim borrowed a NOS body side panel from John and had the color computer matched. Mike Brietbach of Milwaukee sprayed the Ducati's body panels.

> "The distinctive Conti exhaust is original; it only needed a good clean and polish."

"John had the original paint numbers from the factory, but he told me the Ducati paint color could change depending on who was mixing paint that day at the factory — some were more yellow, while others were more orange," Jim says. Very few pieces had to be rechromed, but Jim did have the shifter linkage and the kickstarter replated. The distinctive Conti exhaust is original; it only needed a good clean and polish. Several smaller items, including the grips, horns, headlight switch and steering damper knob, were NOS finds, located on eBay.

Jim changed three things in his rebuild that deviated from standard. From the factory, Jim says the 750 Sport came with yellow and red diamond pattern spark plug wires, while he fitted black. Stainless steel spokes replaced the stock silver painted items, and Pirelli Demon tires were installed as Jim intended to ride the 750 Sport as much as possible.

Jim Fitzgerald with the 750 Sport, post-restoration, pre-sale.

1973 DUCATI 750 SPORT

Engine: 748cc air-cooled OHC 90-degree V-twin, 80mm x 74.4mm bore and stroke, 9.3:1 compression ratio, 62hp @ 8,200rpm (claimed)
Top speed: 124mph
Carburetion: Two Dell'Orto PHF 32 with velocity stacks
Transmission: 5-speed, chain final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle w/engine as stressed member/59in (1,499mm)
Suspension: Telescopic forks front, dual shocks w/adjustable pre-load rear
Brakes: 11in (278mm) disc front, 7.9in (200mm) SLS drum rear
Tires: 3.25 x 19in front, 3.5 x 18in rear
Weight (dry): 402lb (183kg)
Seat height: 30.5in (775mm)
Fuel capacity/MPG: 5gal (19ltr)/35-45 (est.)
Price then/now: $2,500/$15,000-$35,000

Finishing up

Jim's only hitch putting the motorcycle back together came when he laid out the wiring harness. Jim was reading a wiring diagram for a 1974 750 Sport (remember, the bike was titled as a 1974), but things just weren't adding up. There was an extra switch and signal lights on the schematic, items his Ducati didn't have.

"The stamp on the steering head plate reads Jan. 1974," Jim says, "but this bike was obviously manufactured in 1973, and it took me a while to work that out."

Jim wanted the Ducati finished by his 50th birthday in the spring of 2009, a goal he met. Upon completion, the Ducati fired up as expected, and Jim was soon on the road. And just about everywhere he went with the bike it drew a crowd, to the point he often couldn't even get off the Ducati when he pulled up somewhere.

After putting some 3,000 miles on the Sport, Jim decided to sell it, and in 2010 the Ducati went to Anthony Gee in San Diego. A collector of European and Japanese motorcycles, Anthony says he'd been searching for a 750 Sport for some time to add to a stable that already included a Ducati GT750, several Ducati singles and a couple of Hondas.

"They just weren't coming up for sale," Anthony says of the 750 Sport, "so when Jim's bike popped up I decided I should move on it. It's a bike I really like, and it's very aggressive when compared to the GT in terms of riding position and style. It's fun to ride, and I've put on a few hundred miles."

Jim, meanwhile, still has his Ducati Darmah to ride — the bike that originally forged his and Rick's relationship with esoteric Italian machinery. MC


PHIL
JOHN PLAYER
100/90 H19

BRITISH EXOTIC

Go-fast good looks and low production make the John Player Norton a top collectible

Story by Margie Siegal
Photos by Nick Cedar

There are many collectible Norton Commandos, including high-pipe S and SS models, Production Racers and high performance Combat models. But one of the most appreciated and best remembered is the John Player Norton.

And it's easy to understand why. The eye-catching white fairing, accented by red and blue stripes, looks exotic. The twin headlights are undeniably futuristic, and the flag on the tail leaves no doubt where the bike came from. And even though under all that flashy bodywork is a bone-stock European-spec 1974 Mark 2A Commando (although perhaps with taller gearing), the John Player Norton exudes the aura of a race track special.

Commando days

The John Player story starts in the mid-1960s. Norton was then owned by AMC, a British conglomerate that also counted once-celebrated and now long-gone British marques among its stable: Matchless, AJS, James, Francis-Barnett and Villiers. Unfortunately, AMC, along with the rest of the English motorcycle industry, was in trouble, and in 1966, AMC went under. The wreckage was bought by Dennis Poore and his Manganese Bronze Holdings Ltd. Poore reorganized the remains into a new company named Norton Villiers Ltd. Implicit in this new construct was the belief that Norton's racing heritage and its popular parallel-twin 745cc Atlas sport bike made it a viable brand.

Introduced as an export-only model in 1962, the Atlas quickly gained a reputation for speed, handling and rattle-the-fillings-out-of-your-teeth bone shaking vibration. Aside from gaining dual carbs and 12-volt electrics, the Atlas continued without major change until Norton Villiers Ltd. took over. To upgrade the Atlas, the new firm hired Dr. Stefan Bauer, formerly with Rolls-Royce, to head a development team (including engineers Bernard Hooper and Bob Trigg) tasked with building a new motorcycle that would handle and go like the Atlas, but not vibrate like it, despite retaining the Atlas' basic parallel-twin engine.

Riding position on the JPN is all business, with a good stretch over the long tank to the low-mounted clip-on handle bars (left). A standard 828cc Norton parallel twin, the same as in the stock Commando, powers the JPN (right).

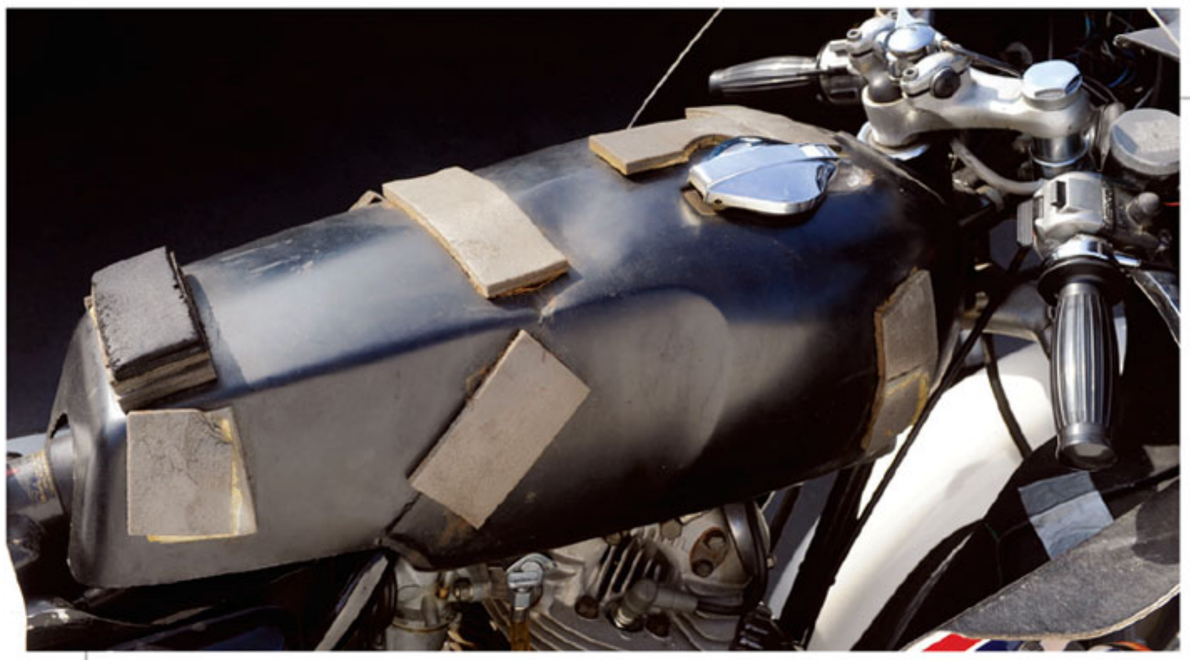
1974 JOHN PLAYER NORTON COMMANDO

Engine: 828cc air-cooled OHV parallel twin, 77mm x 89mm bore and stroke, 8.5:1 compression ratio, 50hp @ 5,900rpm (claimed)
Top speed: 115mph (period test)
Carburetion: Two 32mm Amal Concentric 932
Transmission: 4-speed, right foot shift w/reverse pattern (shifter is flipped for rearset pegs), chain final drive
Electrics: 12v, coil and breaker points ignition
Frame/wheelbase: Dual downtube steel cradle/56.8in (1,443mm)
Suspension: Telescopic forks front, dual Girling shocks w/adjustable preload rear
Brakes: 10.7in (272mm) disc front, 7in (178mm) SLS drum rear
Tires: 4.1 x 19in front and rear
Weight (dry): 435lb (198kg)
Seat height: 30in (762mm)
Fuel capacity/MPG: 4.2gal (15.9ltr)/40-50mpg
Price then/now: $2,995/$5,000-$15,000

By September 1967, a prototype was on display at the annual Earls Court show in London. The parallel-twin engine was tipped forward and housed in a new frame featuring a 2.25-inch backbone welded to a double cradle. The rear gearbox cradle mount was cushioned in rubber, as were other engine attachment points. These rubber mountings, patented and trademarked as "Isolastics," isolated the rider from most (but not quite all) engine vibration, while providing a very sporting ride.

In its March 1970 issue, *Cycle* magazine tested the 1969 crop of Superbikes. Of the seven bikes tested, a Commando SS ran the quarter mile fastest, at 12.69 seconds. The new Honda CB750 could stop more quickly, but the Norton was still faster. "Handling is extremely light and precise for such a big machine," editor Cook Neilson said, further praising the Norton's flat power band, lack of vibration and easy shifting gearbox, although he panned the bike's brakes, at that time both drums. A front disc brake appeared in late 1971.

The Commando sold well, and the factory, enthused by the potential of the big engine, hired former Suzuki racer Frank Perris to manage a factory race team. The team was sponsored by John Player, an English manufacturer of cigarettes, and its three main riders, Peter Williams, Dave Croxford and Mick Grant, did well in the Formula 750 races popular in the early 1970s. Norton decided to capitalize on its popular race team by designing a road bike that looked like the factory 750 racers.



An elongated steel Roadster gas tank (left) hides under the JPN's sleek fiberglass shell (right).

Enter Mick Olfield

Fresh out of art school, Mick Olfield started working for Norton in 1972. His job description was stylist/product designer. "At the time, most design was what draftsmen drew on a drawing board," Mick explains. "Ergonomics didn't come into it too much, and parts were designed on an individual basis. Some things were integrated, some were not. I was brought in to improve the ergonomics of the motorcycle, and make it look different in subtle ways." He soon discovered there were stringent financial limits on what he could do. "There was a lot of money wasted. The company owners did not want to invest in the factory, and this was true throughout the British motorcycle industry," Mick recalls. "BSA, especially, was owned by people who were not interested in bikes. If there was any money, it went elsewhere."

One of his first projects was the race replica. Mick explains that the John Player Norton was originally conceived of as a café racer, a concept he describes as "warmed over production racer style." The race team started entering endurance events, using a special fairing with twin headlamps designed for these all-night affairs. At this point, Mick was halfway through the project, but decided to change to the twin headlight look. The prototype was built of hand-formed aluminum. The gas tank started as a 2.6-gallon Roadster tank. "We welded a lump on the rear to extend the mileage. At the time, fiberglass tanks were illegal, so we made the tank out of metal, with a fiberglass hood over it. The JPN tank holds 3.5 English gallons, or about 16 liters," he says.

"The exhaust was black chrome, not black enamel, and the racing hump behind the single seat had storage you could get at with a couple of twist fasteners. A lot of people think all John Player Nortons were 850s, but you could get the bike with the 750 short-stroke engine, which was built to homologate for U.S. racing. You could get the short-stroke engine detuned for street use. The John Player with the 750cc engine is in the catalog I saved, but I don't know how many were built."

The John Player Norton (quickly abbreviated JPN) was introduced in late 1973 and reached the public in April 1974. Many people think it was put together by the race team, but Mick says only the production racers were built by the race team, not the John Players. In actuality, the JPN was either built at Andover, in a separate facility, or on the main production line at Norton's Wolverhampton factory.

Most JPNs went to the United States. It's believed that of the approximately 200 JPNs made, 120 were sent to the U.S. All factory JPNs (as opposed to home-built copies) were made in 1974,

With some 50hp on tap the JPN's a bit of a sheep in wolf's clothes, but the venerable Norton twin is a strong puller, with ample torque down low and plenty of top-end oomph.

with the shifter on the right and 30mm intake ports. Tapered manifolds connected the ports to 32mm Amal Concentric carburetors. The front brake was a disc, the rear a drum. All factory JPNs had forged aluminum brackets on the back of the fairing. There are some copies floating around, but these have welded brackets.

Unfortunately, the JPN banked on a collector's market that did not then exist. To most potential buyers, the fairing and twin headlights looked weird instead of fashion forward. Young men looking to lure the fairer sex objected to the lack of a passenger seat, while other buyers objected to the price tag. At $2,995 — $495 over a standard Commando — it was the most expensive production Commando. JPNs sat on dealership floors. To make matters worse, John Player Tobacco quit sponsoring Norton at the end of 1974. And that was the end of the John Player Norton.

Phil Radford's John Player Norton

In 1970, Phil Radford was working for Imperial Tobacco as a mechanic when a friend announced he had a 1961 Norton twin for sale. Phil bought it, liked it and joined the English Norton Owners Club. Contacts with the California Norton Owners Club led Phil to vacation in California in 1980, borrowing a bike from a California club member. That year, Art Sirota showed up at the United States Norton Owners Association Northern California Rally in the Redwoods, riding his John Player Norton. Phil had never seen one before. "I fell in love with the looks," he says.

Phil decided to move to the United States in 1981. A year later, he was driving past a garage sale and saw a 1972 Commando parked there. "It was well priced and actually ran, so I bought it," he explains. The next year, he found himself secretary/treasurer of the Northern California Norton Owners Club. He was buying a lot of parts from Norvil (then called Fair Spares) in England and inquired at one point if there was a U.S. distributor. The supplier asked if he would like to be it, and that's how he became a Norton parts dealer.

A few years later, Phil came across the JPN featured here. "I heard through the grapevine that this guy was moving and wanted to sell his John Player," Phil says. It was in good condition and, aside from a little reassembly, needed no restoration.

> "My eyes were glued to the road. It was the fastest I have ever been on a Norton, and it was very steady at speed."

Phil is an excellent mechanic, but even he can't figure out why all the John Players he has ever owned run better than the garden variety Commando. "The gearing is taller, but that doesn't explain it. It's hard to quantify," he says. "Somehow, they are all smooth and go well. They are quiet at higher speed, and a great bike on sweepers. The only problem is the clip-ons and rearsets. The older we get, the sooner clip-ons and rearsets become uncomfortable.

"I brought my John Player to the Utah International Norton Owners Association rally a couple of years ago," Phil continues. "There were seven John Players there, probably the most that have been in one place recently. A couple of us were riding on this long downhill stretch. There was a Honda rider behind us. He said later that he was doing 110mph and we were pulling away from him. I have no idea how fast I was going, but it must have been about 115mph. My eyes were glued to the road. It was the fastest I have ever been on a Norton, and it was very steady at that speed." MC

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BIG NOISE FROM BREGANZE

The Laverda Jota 1000

Story and photos by Robert Smith

I'm standing outside the Fox and Fiddle pub on the Langley By-Pass in Surrey, British Columbia, Canada, with Steve Gurry and his 1981 Laverda Jota, its orange paint a fireball in the evening sunshine. It's the loudest bike in the parking lot — and he hasn't even started the engine.

Then he thumbs the 1,000cc triple's starter. The tarmac shudders as the beast comes alive with a bellow, its raucous beat echoes off the pub wall and stray gusts of exhaust beat at my face. It has the seething, restrained menace of an offensive lineman just before the snap.

Steve climbs aboard, slips it in gear and idles the Jota toward the highway entrance, the engine thrumming its rhythmic beat. He pulls out on the street, checks traffic and cranks the throttle wide, ramming open the pumper jets in the three big Dell'Orto carbs. With a snarl like a top fuel dragster, the Jota rips away, firing two rooster tails of raw gas high into the air. It's pure theater.

Laverda and the Jota

Every successful bike maker has a standout model, the *ne plus ultra*, the one where everything comes together perfectly, producing a classic bike that exemplifies the brand. For Triumph it was the Bonneville, for Moto Guzzi the Le Mans and for Indian the Chief. For Laverda, it was the Jota.

Not for the first time in motorcycling history, the Jota is the result of an enterprising salesman telling the factory what it should build. In the 1950s, it was U.S. distributor Bill Johnson who persuaded Triumph to build the Bonneville; Joe Berliner asked Ducati for a police bike and got the Apollo; and it was U.K. Laverda distributors Slater Brothers who came up with the idea for the Jota.

Production of Laverda's 750cc twin was barely underway in 1969 when the factory announced intentions to produce a 1,000cc triple, promising to show a prototype at that year's Milan show. General manager Massimo Laverda claimed the new machine would be both lighter and narrower than the new Honda CB750's 471 pounds and 22 inches. These were ambitious targets, but the only one Laverda missed on was the timing. Though the company showed a 1,000cc triple at Milan, it was a single overhead cam design clearly based on the twin, and it was

"With a snarl like a top fuel dragster, the Jota rips away, firing two rooster tails of raw gas high into the air. It's pure theater."

soon abandoned. The final prototype, shown in Milan in 1971, was an all new inline 3-cylinder engine with chain-driven double overhead cams, a new duplex-cradle frame and a Laverda twin-leading-shoe front brake.

Production of the 1000 eventually got underway in early 1973, still with the drum brake, though for 1974 a revised version, the 1000 3C with dual Brembo disc brakes at the front (a few early 3Cs wore a single disc), was announced. In a prescient move, higher performance camshafts, designated "4C" became an available option. Even in stock form, though, the 3C was the bike to beat, with a tested top speed of 133mph.

For 1975, the 1000's specification was revised again, this time with Laverda's own cast wheels replacing the wire spoke Borrani rims, and with a third brake disc added for the rear wheel to create the 1000 3CL (L for *lega*, meaning alloy). The rest of the Jota story comes from across the English Channel.

The English connection

In April 2003, I was riding through rural Herefordshire, England, when a familiar red, white and green roundel on the front of an unremarkable industrial building caught my eye. "Slater Laverda," said the sign. Of course, I had to stop and go in. Behind the counter was the friendly and self-effacing Richard Slater: the Richard Slater, now gray-haired, but still full of energy. It was around 1970 that Richard and his brother, Roger, became the U.K. importers for Laverda.

Richard showed me around his parts inventory and the restored bikes he had for sale, and also invited me to look up Roger, who lives in the U.S., when I returned home. Our acquaintance was renewed when both Slater brothers appeared at the inaugural North American Laverda Owners' get together at Willow Springs in 2005 (see *Motorcycle Classics*, Premier Issue).

Roger Slater's race development skills were honed on Egli-framed Vincents, which he built under license, so when the first 3C arrived at their premises back in the mid-Seventies, Roger recognized its potential. By 1975, Slater Brothers were offering a triple fitted with factory optional 10:1 pistons and 4C race cams. Slaters fitted fork yokes from the SFC750 endurance racing twins to give a shorter rake; and added an exhaust system designed in cooperation with Ariel Square Four specialist Tim Healey. The bike, called the 3CE (E for England) was essentially the basis for the Jota.

In 1976, Massimo Laverda agreed to supply a factory-built 3CE exclusively for sale in the U.K. Whether it was Massimo or Slater Brothers who came up with the name Jota seems unclear. Lamborghini had used the name for its high-performance Miura Jota, but it's also said that music buff Roger Slater found the name in a musical dictionary. Supporting the former notion, enthusiasts say that if Ducati is the Ferrari of motorcycles, then Laverda is the Lamborghini; either way, the name stuck.

The 1976 Jota was a sensation. Making around 90hp, it was the first production motorcycle trapped at more than 140mph. Slaters entered a Jota in the Avon Production series of races in the U.K. with Peter Davies as rider. Davies went on to win the series outright in both 1976 and 1978, and Jotas claimed the championship four times in total, with more victories in 1979 and 1980.

1981 LAVERDA 1000 JOTA

Engine: 981cc air-cooled DOHC inline triple, 75mm x 74mm bore and stroke, 8:1 compression ratio (10:1 Euro spec), 90hp @ 7,500rpm (claimed)
Top speed: 146mph (period test)
Carburetion: Three Dell'Orto PHF32
Transmission: 5-speed, chain final drive
Electrics: 12v, Bosch electronic ignition
Frame/wheelbase: Dual downtube steel cradle/58in (1,470mm)
Suspension: Telescopic forks front, dual Marzocchi piggyback shocks w/adjustable preload rear (stock)
Brakes: Dual Brembo 11in (280mm) discs front, single 11in (280mm) disc rear
Tires: 100/90 x 18in front, 120/90 x 18 rear
Weight (dry): 515lb (234kg)
Seat height: 33.3in (846mm)
Fuel capacity/MPG: 5.3gal (20ltr)/35-45mpg
Price then/now: $5,950/$7,500-$15,000

By 1977, Jotas equipped with a left-side shifter and a Harris exhaust system were being sold in the U.S. by Lance Weill of Rickey Racer in Pomona, Calif. With the introduction of the 1200 in 1978, all of the triples adopted the same frame with more forward-leaning rear shocks and Marzocchi forks. Engine reliability problems surfaced in 1979 and were principally associated with crankshaft bearing and cylinder head changes. These were quickly resolved in 1980, and for 1981, the Jota received a major makeover with a new, more powerful alternator that required fitting the ignition pickups on the left end of the crankshaft instead of the right. U.S. models got softer cams and lower compression pistons, too.

1981 marked the end of the line for the "real" Jota. Early triples featured a 360-degree crankshaft, with the outer cylinders rising and falling together, and the center 180 degrees off. While the "180" engines had a distinct sound and feel, they were faulted for vibration. Although some Jotas were sold in 1982 with the 180-degree engine, these were left-over 1981 models, for in 1982 the factory switched to a new crankshaft

A combination of factory high performance "4C" cams, endurance racing 10:1 high-compression pistons and tuned exhaust gave the Euro-spec Jota an estimated 90hp. In 1976 it was the first production bike to be clocked at over 140mph.

with a smoother, 120-degree firing interval. For 1982 the factory offered a "Jota 120" styled like the original, but that was replaced by the RGA Jota, basically a stripped down RGS and with none of the character of the "original" Jota.

Steve Gurry's Laverda Jota

The motorcycle that breached the peace at the Fox and Fiddle is a 1981 model with the later Nippon Denso alternator and left-side ignition pickup. A speedometer marked in kilometers means it's probably a Canadian model, although that could be misleading. Either way, it would have originally had 8.0:1 compression pistons and touring A12 camshafts. Though the compression is still stock, Steve has installed new camshafts with a more sporting profile, as supplied by North American Laverda parts guru Wolfgang Haerter of Columbia Car & Cycle (angelfire.com/biz/laverda), as well as less restrictive Campbell reproduction mufflers.

What is astonishing about Laverdas in general, and the late 180-degree triples in particular, is how durable they are. Though meticulous about maintenance, Steve rides his Jota hard; yet in spite of covering at least 60,000 miles, the engine is oil-tight and burns negligible amounts of oil. It's never been apart except for routine maintenance and top-end upgrades.

A look at the outside of the engine offers some clues to the robustness inside: heavily finned and ribbed sandcast engine cases; solid webbed and gusseted frame; sturdy cycle parts and top-quality components from Bosch, Brembo, Marzocchi and Nippon Denso. With its own foundry, Laverda was able to make many of the major components it used — such as the engine cases and frame, metal bodywork and more — as well as casting its own wheels.

Though not restored as such, Steve has carried out an engine-out repaint with the result that his Jota looks better than new.

Riding the Jota

Laverda triples seem to like lots of fuel, and starting the Jota requires choke most of the time, sometimes even when the engine is warm. The throttle should stay closed, though: Too much air will stifle the engine, and vigorous use of the throttle will work the carburetors' pumper jets, flooding the cylinders.

The next challenge is the clutch, which requires Popeye-sized forearms to operate. The triples got a hydraulic clutch in 1981, but while the action is smoother, the effort required is still considerable. And while the original 3C weighed a relatively modest

Green color scheme identifies U.S.-spec 80hp Jarama.

The softer Jota: Jarama

Incredibly, as I'm setting up for our photo shoot another Laverda arrives. It's ridden by Laverda enthusiast Jim Bush, who's just acquired a 1977 Jarama, and seeing us, he has to stop.

The Jarama, named for the race circuit outside Madrid, Spain, was essentially a 1000 3CL (the L meaning Laverda cast wheels) modified to suit the U.S. market with a left-side shifter (most European 3CLs were sold with right-side shift), reflectors and a quieter exhaust. Though never reaching the acclaim of the Jota, the Jarama's more conservative riding position and softer engine tune make it a very practical "daily driver." And its mellow green color provides a tasteful backdrop to the screaming orange of the Jota.

Not entirely successful, some Jaramas were shipped from the U.S. to Slater Brothers in England, where they were sold at a discount or, in some instances, converted to Jota specs to speed up sales. These became known by insiders as "Jarotas."

PRESS REPORTS

"We'll tell you right up front: The new Laverda Jota is everything an Italian motorcycle is supposed to be. It's fast. It's flashy. It's expensive. It's uncompromisingly sporting. And above all, it's exclusive. An American Jota owner is about as likely to meet another Jota owner coming down the street as a tyrannosaurus is to meet a stegosaurus in downtown Des Moines."

— Cycle Guide, June 1977

"It's a rocket ship, for certain, but with little of the snakey air-to-air missile quickness of something like the Kawasaki KZ1000. The acceleration is more in the Saturn lunar booster class, starting deliberately and leaving off … where? Next week is a good guess. Sometime after the rider begins thinking in terms of self-preservation is an even better guess."

— Cycle World, November 1977

"The Jota's short, narrow, hard seat drew the ire of every staffer who spent more than an hour on it. It's far too hard for normal American riders. The seat's upward slope toward the gas tank prevents riders, especially short ones, from sliding forward enough to take the load off arms and wrists."

— Cycle, February 1982

"Despite the lumpy idle and missing-cylinder feeling at low rpm, the Laverda makes good power. It's willing to chug around town at 3,000rpm and below, then changes personality dramatically as the rpm approaches 6,000. From there on up the bike explodes forward."

— Cycle World, June 1982

470 pounds, later models like Steve's Jota scale more than 515 pounds dry. With a kickstand that is almost impossible to deploy from the 32-inch seat perch, mounting and dismounting the Jota can be a challenge for shorter people. It's always best to park the Jota on its center stand, which is both rugged and adjustable.

The engine's considerable torque right off idle makes takeoffs easy, however, and once rolling the brute seems to lose its bulk and weight. The riding position is aggressive, though the patented adjustable handlebars allow for a number of options. In spite of its 1-2-3-miss firing order (the 180 engine has been likened to a 4-cylinder engine that's only firing on three), power delivery is surprisingly smooth, though vibration does become obtrusive at high revs, say above 6,000rpm. What's most impressive, though, is the loping, locomotive-like torque that propels the bike along at highway speeds.

But it's on fast sweepers that the big Laverda really wakes up. The relatively relaxed steering geometry mean some effort is required to change direction, but once heeled over, the Jota is rock steady, holding its line solidly in spite of pavement ripples. A series of fast turns is huge fun on the Jota: big engine braking aids the setup, firm pressure on the bars initiates predictable counter-steering, and accelerating through with the engine spinning between 4,000 and 5,000rpm elicits a resonant boom from the airbox and a roar from the exhaust: an Italian concerto!

Owner Steve Gurry aboard his lovely Jota.

Owning one

Keeping a Jota on the road is relatively straightforward, although a strict maintenance schedule is essential. There's no spin-on oil filter to change, but the oil must be refreshed every 1,500 miles. However, changing the sump oil screen requires removing the exhaust headers, but this is a fairly quick job. The cam chain and primary chain are both adjustable from outside the engine (follow the instructions in Tim Parker's excellent *Laverda Twin and Triple Repair and Tune-up Guide*, Parker House, $40), but should be replaced at 20,000-mile intervals.

Valves are a simple shim-and-bucket design and use Honda shims, but they need to be checked for clearance every 6,000 miles with the engine cold; and the camshafts have to be removed to replace any shims.

Laverda 180-degree triples are huge fun to ride, and much more rewarding in both visceral and acoustic feedback than a typical modern motorcycling appliance. By modern standards, the handling feels heavy and slow, and the Jota's estimated 90hp (less for the later low-compression models) is unimpressive compared to a contemporary sport bike.

In many ways, they're the antithesis of the traditional lithe, lightweight Italian motorcycle, yet much more usable in that real world we're all so familiar with. Solidly built, desirable, immensely durable, and with excellent parts backup, Laverdas are likely to become even more collectable in the future. MC

On the road in fast, sweeping turns is where the Jota really shines. Steady handling and a lovely engine note make for a rewarding experience.


YAMAHA
XS
Eleven

THE BELLE OF THE BALL

Better late than never, Yamaha blew away the big bike competition with its fast and fabulous XS1100

Story and photos by Doug Mitchel

When the time came for Yamaha to join the Superbike ball, the XS1100 was fashionably late. Liter bikes from Honda, Kawasaki and Suzuki were already at the dance and making a name for themselves. Although the competing entries filled different needs, each was powered by an engine displacing 1,000cc or more.

Honda had broken the 1,000cc barrier with its GL1000 in 1975. Kawasaki followed in 1977 with the KZ1000 and Suzuki entered the fray in 1978 with its GS1000. Until 1977, Yamaha's biggest model was the XS650 twin. The triple-lung XS750 rolled into view for 1976, but left much to be desired when it came to open road touring and was a bit of a slug when you rolled on the throttle.

Not just bigger, better

Knowing they needed a bigger partner to compete in the hoedown, Yamaha turned up the wick and introduced its XS1100 for 1978. Much of the media had expected a 1,000cc machine to fill the spot, but the designers at Yamaha threw an unexpected performer onto the dance floor. Not only did the latest XS carry more cubic centimeters than the others, but it also featured a 4-cylinder engine, a first for the tuning-fork firm. With Yamaha's sights set on the long haul rider, the big XS was armed for bear.

On the surface, the XS1100 seemed pretty straight forward, but like a lady behind a feathered mask it hid a few surprises. When the engineers were drawing up the 1,101.6cc engine, they did far more than simply tack an extra lung to the existing 3-cylinder engine from the XS750. While being fairly typical in its layout, Yamaha threw in some technological features to enhance power. Dual overhead cams were expected, but the four 34mm Mikuni constant velocity carbs — a first for an inline four — weren't. The XS also benefited from very unique combustion chambers.

While hemispherical combustion chambers, with intake and exhaust valves placed across from each other and a centrally located spark plug (hence the term "hemi head"), were the performance norm, they had inherent limitations. Chief among them was upping compression ratio without resorting to pistons with huge crowns, increasing weight and slowing heat dissipation. To get around this, Yamaha developed a complex "polyspheric" combustion chamber, a design that required six machining operations to achieve. The multitude of cuts and shapes milled into each combustion chamber produced the same volumetric efficiency of a hemi but without any of a hemi's drawbacks, allowing Yamaha to use slightly crowned and lighter weight pistons (211 grams).

A second feather in the designer's cap was the ignition system. Borrowing from the automotive world, the new XS included transistorized ignition with vacuum advance, the former for reliable firing, and the latter to greatly improve mid-throttle and trailing throttle performance thanks to its ability to advance ignition timing when it's most needed. This helped the big engine to deliver power smoothly regardless of rpm or selected gear.

1978 YAMAHA XS1100

Engine: 1,101cc air-cooled DOHC inline four, 71.5mm x 68.6mm bore and stroke, 9.2:1 compression ratio, 95hp @ 8,000rpm (claimed)
Top speed: 136mph (period test)
Carburetion: Four 34mm Mikuni CV
Transmission: 5-speed, shaft final drive
Electrics: 12v, electronic ignition w/vacuum advance
Frame/wheelbase: Dual downtube steel cradle/60.8in (1,544mm)
Suspension: Telescopic forks front, dual shocks w/adjustable preload rear
Brakes: Dual 11.7in (297mm) discs front, single 11.7in (297mm) disc rear
Tires: 3.5 x 19in front, 4.5 x 17in rear
Weight (wet): 602lb (274kg)
Seat height: 32in (813mm)
Fuel capacity/MPG: 5.3gal (20ltr)/30-40mpg
Price then/now: $2,989/$2,500-$5,500

At 1,011cc the XS1100 was the biggest Japanese four yet.

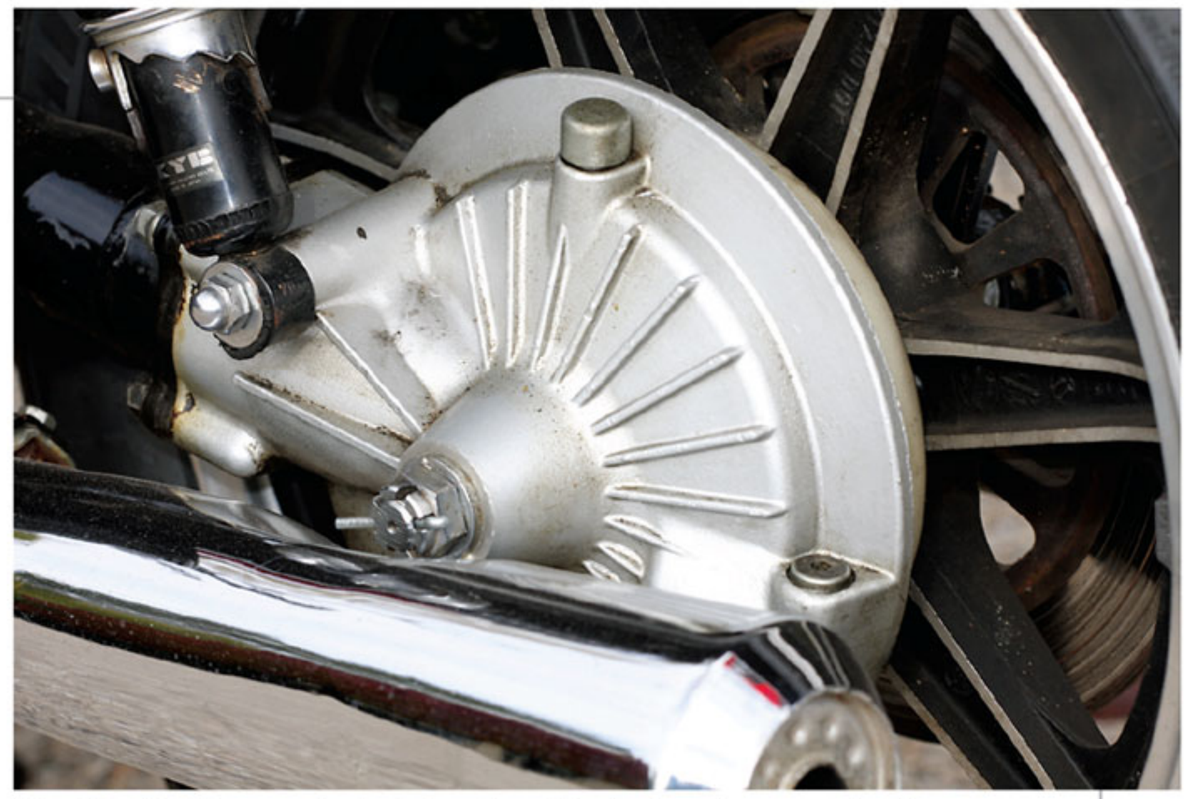
Final drive on the bike was shaft, chosen primarily due to the XS11's target as a highway touring bike. Five gears sent their ratios to the shaft without any ruckus, and without undue rear-end lift under hard acceleration. It was there, just not as pronounced as what riders of BMWs were accustomed to. Disc brakes in triplicate, two fore and one aft, did a great job of hauling the heavy XS down from your chosen velocity. Each rotor measured 11.7 inches in diameter and was squeezed by a single-piston caliper.

Not just bigger, faster

Obviously, Yamaha didn't go to all this effort to end up with lackluster performance. Curb weight for the XS was listed as 602 pounds with a full tank of fuel. With a rider aboard, that number could easily reach 800. Add a passenger and the half-ton was within reach. Pushing that much mass through the atmosphere seemed to be a herculean task, but the XS1100 proved its worth.

When *Cycle* magazine took an XS1100 to the local drag strip for its January 1978 issue, the massive XS laid down speeds never before seen by a Superbike of the period. Nineteen runs were made, with every trip of the lights coming in under 12 seconds. Their best run was 11.82, a time unmatched by any bike prior to the XS. A month later, *Cycle World* reported a best run of 11.78 seconds. The motorcycle world had a new king of the quarter mile.

The styling of the big XS1100 standard was fairly staid, belying the power that lurked within. Hints of European



The Yamaha's broad, flat seat is a good place to spend a day (left). Shaft drive pointed to the bike's touring aspirations.

design could be found in the 5.3-gallon fuel tank and rear seat cowl, both trimmed with gold pinstripes. Unlike most offerings of the day, the saddle did not hinge up for access. The cowl and seat was a singular item and needed to be unbolted to service the battery. A standard issue tool kit lived under a lockable side cover but displaced all the storage to be had. The seat itself was wide, well padded and made a great place to spend the day. Even the passenger portion of the seat was comfortable, allowing a friend to go along as you took to the long ribbons of tarmac.

The handlebars were another creature comfort that held a secret. At first glance they appeared to be too far back and at too extreme an angle to be user friendly. Once perched on the bike, riders found they were about as perfect as they could be, affording a comfortable, day-long ride posture. Another part of this ergonomic victory was due to the position of the foot pegs, which were slightly rear set.

A "custom," called the XS Special, was offered alongside the standard, and included features like a tear-drop fuel tank, 2-step saddle and taller, buckhorn bars. The custom configuration was all the rage in the day and the XS Special slotted in nicely. A Midnight Special drenched in black with gold trim came later.

Brand new, the XS1100 carried an MSRP of $2,989, making it cheaper than its liter-bike-plus rivals. The CBX commanded nearly $1,000 more, while the Kawasaki Z1-R and Suzuki GS1000E were almost $800 more.

The downside to bigger

It would seem the new XS1100 was the perfect bike for any occasion. Indeed, when devouring miles that came in a straight line, the XS was at the top of the food chain. The smoothness of the engine coupled to comfortable accommodations made for a machine that could eat highway miles without a hint of indigestion. It was only when the bike was pressed into cornering at high speeds that things turned ugly. Testers of the day all echoed the same story: The XS1100 was a solid bullet in a straight line, but cornering at high speeds was done at your own risk.

Cycle warned its readers that the bike

Weighing in a some 600 pounds wet, the XS1100 was a big bike in its day.

Owner Joe Bortz appreciates both the comfort and the low-end growl of his XS1100.

could easily go, stop and steer — just never two at the same time. A high-speed wobble came on readily if you pushed the 600-pound machine too hard into the turns. And while the point at which this happened was above most riders' skill set, that didn't make the issue any easier to deal with. Excessive exuberance would quickly expose the bike's weakness and send you offroading on a machine not intended to do so.

I had a brief opportunity to ride Joe Bortz's XS1100, our feature bike. Being vertically challenged (OK, I'm short), the 32-inch saddle lifts my boots higher off the pavement than I like while at rest. But once under way that issue disappeared as I transitioned to the experience of mind-numbing acceleration and a mount I could ride all day. Turning the beast around is effortless and smooth, as if I'd been riding it for years. The 61-inch wheelbase would seem to suggest a different experience, but the XS surprised. I remember riding a Midnight Special version of this bike when they were new. A buddy had purchased the bike and was eager to let me take a spin. Even in the height of my youth, I was amazed at the speed and balance of the Yamaha. My personal mount at the time was a Honda CB750 with the early single-cam engine. It had been impressive until the day I threw my leg over the XS1100. How quickly legends fall …

Owner Joe loves the Yamaha. "I find it very appealing," he says. "The first year for the XS1100 is really the most striking because of the maroon paint, gold pinstriping and the gold emblems on the side covers. This is an extremely comfortable bike, and when I compare it to the other large bikes of the period, such as the 1979 Honda CBX 6-cylinder and the 1979 Kawasaki KZ1300 6-cylinder, its riding position, seat, and distance between the seat and the handle bars is the most comfortable of the three. As far as spending many hours in the saddle on a road trip, I'd prefer the XS1100 over the Kawasaki or the Honda.

"Motorcycles appeal to all the human senses," Joe continues, "and one of those is sound. Of the three bikes — XS1100, CBX and KZ1300 — the XS1100 definitely has the best low-end growl. It's not quite as good as an MV Agusta America or a Laverda Jota, but it's darn close."

The XS1100 was replaced by the Maxim in 1982, as Yamaha did its best to keep up with the manic changes within the industry. Those were the golden days of cycling, with classic machines coming out every year. Had I seen the writing on the wall, I would have saved a few that I owned, but my common sense gene had yet to make its appearance. Youth, as the saying goes, is wasted on the young. MC

PRESS REPORTS

"This isn't a motorcycle. It's a time machine! Just turn that thing on the right end of the handlebar and everything else seems to slow down and freeze."

— Cycle Guide, January 1978

"This is a motorcycle that asks for some restraint on its rider's part and sends up plenty of distress signals before it runs out of patience. But the XS11 is prepared to punish heedless stupidity like nothing we've had since the days of Judge Roy Bean."

— Cycle, January 1978

"The Eleven delivers a physical rush and an emotional rush, all in one great, silent leap. The tach needle spears into the red, the next gear snicks into place and the bike jumps forward again."

— Cycle World, February 1978

"The only glitch in Yamaha's program comes up whenever a bumpy, oh-so-fast corner beckons invitingly; then, the beauty turns beast."

— Cycle Guide, November 1978

"The XS Eleven is as quintessentially American as a Peterbilt truck … intended for the wide-open spaces where the dotted white line disappears into the distance."

— Cycle Guide, November 1978

"Lord is it smooth. Not even the most sophisticated 6-cylinder motorcycles are any smoother."

— Cycle World, October 1979

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